AN APPRAISAL OF FINANCIAL PERFORMANCE OF CEMENT CORPORATION OF INDIA LIMITED, SINCE 2005

ABSTRACT

SUBMITTED FOR THE AWARD OF THE DEGREE OF

Doctor of Philosophy
In
Commerce

BY

MOHD. AJMAL

UNDER THE SUPERVISION OF

DR. MOHD. YAMEEN
(ASSOCIATE PROFESSOR)

DEPARTMENT OF COMMERCE
ALIGARH MUSLIM UNIVERSITY
ALIGARH (INDIA)

2016

ABSTRACT

INTRODUCTION

Cement is the most essential raw material which is used for all kind of construction activities. It plays a crucial role in the infrastructural development of any nation, especially in a vast country like India, which has a big geographical size and a massive population. Cement is also an essential component of infrastructure development and the most important input for construction industry particularly in the Government's infrastructure and housing programs which are necessary for the country's socio-economic growth and development. There are various construction activities undertaken by the Central Government, State Governments, Public Sector Undertakings and other organizations including private sector, which create a huge demand for cement.

Public Sector Enterprise of India: An overview

The Central Public Sector Enterprises (CPSEs) have been a strategic lever for Indian economic development in both pre independence and post-independence era. In pre-independence era there were very few CPSEs in India which were centric to Railways, Posts and Telegraphs, Port Trust, Ordinance Factories, All India Radio, Aircraft factories, etc. Over the years, CPSEs not only have grown in numbers but also in the range of activities such as manufacturing, engineering, cement, heavy machinery, textiles, pharmaceuticals, petro-chemicals, etc. Since inception, PSEs have been the mainstay of the Indian economy and were set up with the mandate to:

- Serve the broad macroeconomic objectives of higher economic growth.
- Achieve self-sufficiency in the production of goods/services.
- Facilitate long-term equilibrium in the balance of payments.
- Ensure stability in prices and create benchmarks for prices of essential items.
- Promote redistribution of income/wealth and balanced regional development.
- Create employment opportunities**.**

Cement Corporation of India: A Brief Profile

In the Indian cement industry, there is only one central public sector undertaking, i.e. Cement Corporation of India Limited (CCI) which has ten production units, spread over eight States/Union Territories. Apart from for Bokajan, Rajban and Tandur units, remaining of the cement plants are lying closed for almost a decade or more. Cement

Corporation of India Ltd. was incorporated as a wholly owned Government of India enterprise, on 18th January 1965 with the principal objective of achieving self-sufficiency in cement production. The authorized and paid-up capital of the Cement Corporation of India**,** as on 31st March, 2012 was Rs. 900 crore and Rs. 811.41 crore (including Rs.41.75 crore for share application money pending allotment), respectively.

Over the years the mounting losses sharply eroded its net worth. By the middle of 1990s, CCI Ltd. suffered accumulated losses to the tune of Rs. 527.16 crore. That staggering amount was more than it's paid up capital of Rs. 406.74 crore and reserves worth Rs. 0.99 crore. It graduated from a loss making Corporation to a sick industrial undertaking. It, therefore, resulted in its reference to the BIFR under section 15(1) of CISA and was declared sick in August 1996.

The present study is based on the analysis of the published annual reports of CCI Ltd for a period of ten years from 2005-06 to 2014-15. All the results and findings of the study are confined to this period only. The main aim of the present study is to evaluate the financial performance of CCI Ltd. The Financial performance of the corporation has been analyzed in detail to provide comprehensive information about the efficiency of the business operations and financial performance of the company.

OBJECTIVES OF THE STUDY

The main objective of the present study is to evaluate the financial performance of CCI Ltd. during the period of study. The main objective of the study has been supported by the following specific objectives.

1. To analyze the financial performance of CCI Ltd. in terms of Liquidity, Solvency, Efficiency and Profitability over the period of study.
2. To evaluate financial performance of CCI Ltd. with the help of comparative and common size statements during the period of study.
3. To examine the financial health of CCI Ltd. with the help of Altman Z score model.
4. To investigate the financial performance of CCI Ltd. using Du-Pont analysis during study period.
5. To assess financial strength of the CCI with the help of comparison of Company's ratios with industry ratios.
6. To summarise the main findings of the study and to offer suggestions, if any, for improving the performance of selected company.

HYPOTHESES OF THE STUDY

The hypotheses of the present research are as follows:

Hypotheses (Regression Analyses)		
$H0_1$: There is no significant impact of Liquidity ratios on Profitability of CCI Ltd.	**P value**	**Results**
$H0_{1a}$: There is no significant impact of CR on ROCE of CCI Ltd.	.127	Accepted
$H0_{1b}$: There is no significant impact of LR on ROCE of CCI Ltd.	.047	Rejected
$H0_{1c}$: There is no significant impact of CPR on ROCE of CCI Ltd.	.027	Rejected
$H0_2$: There is no significant impact of Solvency ratios on Return of Capital Employed of CCI Ltd.		
$H0_{2a}$: There is no significant impact of DER on ROCE of CCI Ltd.	.001	Rejected
$H0_{2b}$: There is no significant impact of ICR on ROCE of CCI Ltd.	.000	Rejected
$H0_{2c}$: There is no significant impact of PR on ROCE of CCI Ltd.	.000	Rejected
$H0_3$: There is no significant impact of Turnover ratios on Return of Capital Employed of CCI Ltd.		
$H0_{3a}$: There is no significant impact of STOR on ROCE of CCI Ltd.	.039	Rejected
$H0_{3b}$: There is no significant impact of TATR on ROCE of CCI Ltd.	.012	Rejected
$H0_{3c}$: There is no significant impact of WCTR on ROCE of CCI Ltd.	.006	Rejected
$H0_4$: There is no significant impact of Sales on Net Profit of CCI Ltd.	.009	Rejected
Hypotheses (Paired t-test)		
$H0_5$: There is no significant impact of Financial Restructuring on Financial Performance of the CCI Ltd.		
$H0_{5a}$: There is no significant impact of Financial Restructuring on Current ratio of the CCI Ltd.	.017	Rejected
$H0_{5b}$: There is no significant impact of Financial Restructuring on Gross Profit Ratio of the CCI Ltd.	.038	Rejected
$H0_{5c}$: There is no significant impact of Financial Restructuring on Return on Capital Employed of CCI Ltd.	.011	Rejected
$H0_{5d}$: There is no significant impact of Financial Restructuring on Debt Equity ratio of CCI Ltd.	.000	Rejected
$H0_{5e}$: There is no significant impact of Financial	.001	Rejected

Restructuring on Total assets turnover ratio of CCI Ltd.		
Hypotheses of the study (One sample t-test)		
$H0_6$: There is no significant difference between financial performance of Indian Cement Industry and Cement Corporation of India Ltd.		
H_{6a}: There is no significant difference between average Current Ratio of Indian Cement Industry and Cement Corporation of India Limited.	.146	Accepted
$H0_{6b}$: There is no significant difference between average Return on Capital Employed of Indian Cement Industry and Cement Corporation of India Limited.	.000	Rejected
$H0_{6c}$: There is no significant difference between Return on Net worth of Indian Cement Industry and Cement Corporation of India Limited.	.000	Rejected
$H0_{6d}$: There is no significant difference between Debt Equity Ratio of Indian Cement Industry and Cement Corporation of India Limited.	.002	Rejected
$H0_{6e}$: There is no significant difference between Sales Growth of Indian Cement Industry and Cement Corporation of India Limited.	.486	Accepted
$H0_{6f}$: There is no significant difference between Total asset turnover ratio of Indian Cement Industry and Cement Corporation of India Limited.	.000	Rejected
$H0_{6g}$: There is no significant difference between working capital turnover ratio of Indian Cement Industry and Cement Corporation of India Limited.	.000	Rejected

RESEARCH METHODOLOGY OF THE STUDY

The present study is devoted to one of the biggest Central Public Sector Enterprise of Cement Industry in India with special reference to Cement Corporation of India Ltd. The data used for the analysis and interpretation is purely secondary in nature. The secondary data used for the study has been taken from the published annual reports of Cement Corporation of India Ltd. from 2005-06 to 2014-15. Financial data of cement industry has been extracted from PROWESS database provided by the Centre for Monitoring Indian Economy (CMIE) and from ACE EQYITY database. A number of Journals, Research Paper and NewsPapers and other relevant Government publications as well as internet have also been consulted for the data collection.

The variables incorporated in the present study are financial ratios of CCI Ltd under various categories i.e. Liquidity, Solvency, Efficiency and Profitability. Financial

ratios have been used in the present study to analyze the financial performance of CCI Ltd. Various tools/techniques used in the Study are Common Size Statements Analysis, Comparative Statements Analysis, Ratio Analysis, DuPont Analysis and Altman Z Score

Various statistical techniques have been used in the present study to analyze financial performance of CCI Ltd. Descriptive statistics of the variables was used to summarize the data in a meaningful way. Regression analysis was employed to evaluate the impact of liquidity, solvency and management efficiency on profitability of CCI Ltd during the study period. In order to compare financial health of CCI Ltd, one sample t test was used to compare financial ratios of CCI Ltd with their industry average ratios while Paired t test was used to evaluate the impact of financial restructuring on financial performance of CCI Ltd. Financial ratios of CCI Ltd. were calculated and their graphical presentation was done with the help of MS-Excel. The statistical tests were applied by using SPSS 19.0. Various statistical tools used in the present study have been discussed as follows.

SIGNIFICANCE OF THE STUDY

The present study may prove important to various stakeholders of CCI Ltd. The following points will clarify significance of the study more elaborately:

- The financial performance evaluation of CCI Ltd will provide an outcome about the workings and performance of the company which will be helpful for the management of the company in order to enhance its performance and business activities.
- Findings of the present study may be helpful for the Government in making policies regarding CPSEs of the country.
- It is also necessary to find out some important factors which may affect internal decision making of the company. Hence, present study is deemed to be useful for this purpose.
- An analysis has been made on various functional aspects like liquidity, solvency, profitability and assets utilization. Thus, the relevant information can be used by stake holders in decision making.
- The important aspect and contribution of the study is to identify the reasons of poor financial performance of the company by the application of financial statement analysis.

LIMITATIONS OF THE STUDY

Limitations are always there in any study. The present research also has some limitations which have been mentioned as follows:

- The study is purely based on secondary data extracted from the published annual reports of the company, its website and other related published sources. Thus, findings of the study are subject to the accuracy of such data that has been collected from these sources.
- The present study includes only a period of ten years i.e., from 2005-06 to 2014-15. Hence, findings are Ltd to this period only.
- The present study is based on ratio analysis and it has its own limitation that applies to this study also.
- Financial statements are normally made on the theory of historical costs and therefore they do not reflect values in terms of current costs. Therefore, analysis of such financial statements or accounting variables would not depict the effects of price level changes over a period of time.
- Financial analysis does not reflect those facts which cannot be expressed in terms of money. For example, efficiency and reputation of workers, and prestige of the management.
- The researcher is an external evaluator of CCI Ltd and thus the inside view of CCI is beyond the purview of researcher.

CHAPTERISATION SCHEME OF THE STUDY

The present thesis has been organized into seven chapters. A short overview of each chapter is presented as follows:

The **first Chapter** deals with the Introduction of the study which provides the general information about the subject under research, it also includes statement of the problem, research Design, objectives of the study, scope of the study, significance of the study, need for the study and Research methodology, covering nature & sources of information and tools used for analyzes & interpretation. It also includes hypotheses of the study, limitations of the study and chapterisation scheme.

The **second chapter** gives an extensive review of literature. It deals with reviews of past studies on financial performance analysis of firms in Cement industry as well as in other industries working in foreign countries as well as in India. The review gives an insight into the significance of financial analysis of business firms.

The **third chapter** gives an Overview of cement Industry throwing light on growth, development, production, consumption, import and export scenario, policies of the government, demand and supply scenario and various issues and challenges related to Indian cement industry.

The **fourth Chapter** Deals with profile of Cement Corporation of India Ltd.

The **fifth chapter** entitled 'Financial Performance analysis- A Conceptual framework' deals with the conceptual framework used in the present study. It also discusses the concept of financial analysis, types of financial analysis, procedure of financial statement analysis, importance of financial analysis, limitations of financial analysis, purpose of financial statement. Various techniques of financial analysis like comparative statement, trend analysis, common size statement, fund flow statement, cash flow statement ratios analysis are discussed at length.

The **sixth chapter** deals with Data analysis and Interpretation. In this chapter detailed analysis has been made regarding the financial performance of CCI Ltd. Various accounting ratios were calculated and analyzed to judge the performance of CCI Ltd. during study period. Also, impact of financial restructuring by BIFR on CCI Ltd. financial performance were calculated and analyzed. Various hypotheses framed were also tested in this chapter.

The **seventh Chapter** entitled 'Summary of Findings, Suggestions and Conclusion', contains the summary of the findings. In this chapter suggestions have been offered in the light of the findings for improving the performance of CCI Ltd. In addition the researcher has given his own ideas by way of a brief conclusion.

FINDINGS OF THE STUDY

Findings based on common size balance sheet

1. Current assets constituted only 11.80 per cent of total in 2005-06 while the fixed assets were merely 8.84 per cent of total assets due to other intangible assets (loss) of the company. It was also observed that the company has invested a very low amount in inventories as well as in fixed assets.
2. During the study period, major portion of total assets was made up of the accumulated loss of the company suffered by it during previous years.
3. Outside liabilities and shareholder's funds of the company constituted approximately 74 per cent and 26 per cent, respectively, of the total capital during the initial years of the study.

4. Contribution of current liabilities in the total liability was 14.18 per cent in 2005-06, which increased to become 16.60 per cent in 2008-09. Further, it increased, but still remained lower, to only 4.39 per cent of total liabilities in 2014-15.
5. In 2005-06, Long term liabilities constituted 52.40 per cent of the total liabilities, which declined over the study period to become 40.63 per cent in 2014-15.
6. In 2005-06, Equity share capital of CCI Ltd was 26.52 per cent of total liabilities which increased to 53.91per cent of the total liabilities in 2014-15.

Findings based on Common size Income statement

1. The costs of sales of CCI Ltd. were very high during the study period and CCI Ltd. had not control its direct expenses except during the initial years of the study.
2. The maximum revenue of CCI Ltd has been utilized on the direct expenses and therefore, high cost of goods sold led to low gross profit margin.
3. Gross profit of the company was 19.69 per cent of the net sales in 2005-06, which increased to become 48 percent in 2008-09 and finally diminished to become 32.76 per cent in 2014-15.
4. It has been observed that the cost of sales has increased over the years having its direct impact on the profit earning capacity of the company under study.
5. Operating expenses of CCI Ltd. were very high during the initial years of the study, which led to low operating profit. The operating profit of CCI has been negative during study period except in 2008-09 which clearly indicates that the indirect expenses of the CCI have been very high during study period.
6. In 2005-06, the other income of CCI Ltd was very high (Rs.94253 lakhs)and was 482.80 Percent of sales which declined to become 14.17 per cent in 2014-15.
7. CCI Ltd. paid its highest interest in 2008-09. Further, it declined over the years indicating that the company has decreased its loans and long term debts during study period.
8. Profit before tax and profit after tax remained almost same for most of years during study period, no tax was paid by CCI Ltd.

9. In 2005-06, CCI Ltd earned a very high profit after tax (Rs.83185 lacs) which was 426.10 per cent of the sales. It declined during the study period and become only 9.91 per cent of the sales in 2014-15.

Findings based on Comparative Income Statement analysis of CCI Ltd.

1. CCI Ltd experienced a robust growth in sales during initial years of the study.
2. Cost of sales of the company has increased over the years on a continuous basis similar to total sales of the company.
3. Gross Profit of CCI Ltd increased by 298.36 per cent from 2005-06 to 2008-09. During the last years of the study, the gross profit showed a decreasing growth rate and stood at 2.64 per cent in 2014-15 indicating the impact of high cost of sales on the business operations of company.
4. Operating profit of CCI Ltd has been negative over the study period, except in 2008-09.
5. Profit before tax of CCI Ltd. showed a mixed trend of growth during the study period. However, it increased during last years of study period by 106 per cent in 2014-15 as compared to the profit of 2011-12.
6. Growth of profit after tax has been in mixed trend during the study period.

Findings based on comparative balance sheet analysis

1. Current liability of CCI Ltd. decreased by 12.06 percent from 2005-06 to 2008-09. However, it increased by 4.43 percent from 2012-13 to 2014-15, indicating that the company has preferred loans than any other sources of finance.
2. During initial years of the study, the long term debt was brought down by 50.07 per cent by the CCI Ltd. from 2005. Further, during the last years of the study i.e. from 2012-13 to 2014-15, it again slightly decreased by 2.07 per cent.
3. Total liabilities of CCI Ltd. has been in decreasing trend over the study period
4. In 2005-06, Share capital of CCI Ltd. was Rs.44682 lakh, which increased by 81.06percent to become Rs.81141 lakh in 2008-09.
5. CCI Ltd. was unable to maintain its reserve and surplus, which remained zero during the study period.
6. Current assets of the CCI showed a considerable growth of 109.90 per cent from 2005-06 to 2008-09. However, there was a negative growth rate of 2.81

per cent in current assets of CCI Ltd from 2008-09 to 2011-12. Further, total current assets of CCI Ltd. again decreased by 7.38 per cent from 2011-12 to 2014-15.

7. Fixed assets of CCI Ltd. reduced by 12.59 per cent from 2005-06 to 2008-09. However, it registered a positive growth of 32.22 percent from 2008-09 to 2011-12 and a positive growth of 31.37 per cent from 2011-12 to 2014-15.
8. Total assets of CCI Ltd. showed a declining trend over the study period.

Findings based on Ratio analysis

1. Current ratio of CCI Ltd. shows unsatisfactory liquidity position during the period of study. From 2005-06 to 2010-11, current ratio was lower than the standard ratio of 2:1 indicating condition of financial. During the remaining years, it was higher than the standard norm, indicating blockage of fund.
2. During initial years of study, Liquid ratio was lower than the standard norm of 1:1 indicating unsatisfactory liquidity position. It further increased to 2.32 and 2.74 times in 2010-11 and 2011-12, respectively, which revealed extra blockage of fund in liquid assets.
3. The proprietary ratio of CCI Ltd. Indicated that the proportion of shareholders' fund was very low in 2005-06 (0.27 times) indicating risky position for the shareholders.
4. Debt Equity ratio value of 1.98 times in 2005-06 indicates highly leverage and risky position of the company in this year. However, the mean value of 0.78 times indicates higher proportion of equity in capital structure of CCI Ltd. during study period.
5. ICR was exceptionally high in 2005-06 indicating higher other income in this year. It has been satisfactory during some years but it was very low during other years. Mean value of ICR (11.53 times)indicates adequate profit to bear the interest expenses
6. The gross profit of the company was satisfactory during most of the years of study period.
7. The net profit was exceptionally high (426.08 per cent) in first year of the study i.e. 2005-06. Net profit ratio declined during the subsequent years and stood at only 4.99 per cent in 2014-15.

8. Operating cost of the company was very high in 2005-06 (150.68 per cent) further it has varies between 81.46 percent and 85.38 percent indicating high operating cost.
9. CCI Ltd had very low return on capital employed during the study period. ROCE of the company fell drastically during study period and stood at 3.03 per cent in 2014-15.
10. RONW and ROA fell drastically during the study period to become 4.96 and 2.86, respectively, in 2014-15, indicating poor performance of the company during study period.
11. The stock turnover ratio of CCI has been unsatisfactory during the whole study period.
12. Analysis revealed inefficiency of inventory management during the study period.
13. Debtors turnover ratio has been in mixed trend during study period. Debtor's turnover indicates that CCI Ltd had satisfactory turnover during the study period.
14. Working capital turnover ratio of the CCI has been negative during initial years of the study indicating condition of financial distress during these years.
15. Total assets turnover ratio of the CCI Ltd. has been very low during the study period. Average TATR of 0.20 times indicates that inefficient management.

Findings based on comparison of financial ratios of CCI Ltd with their Industry Averages

1. CR of CCI Ltd has been in fluctuating trend which revealed inconsistent liquidity position of the company during the study period compared to industry average liquidity.
2. Average LR of CCI Ltd was higher than the Industry average LR indicating better liquidity position of CCI Ltd during the study period.
3. Industry Average ROA of CCI Ltd (8.92 per cent) was better than industry average ROA (7.66 per cent) during the period of the study.
4. Average RONW of CCI Ltd. (23.87 per cent) was higher than the industry (21.93 per cent) indicating better profitability position of CCI Ltd. during study period.
5. Average ROCE of CCI Ltd (11.25 percent) was lower than the industry average ROCE during the period of the study.

6. Average DER of industry average shows better solvency position than CCI Ltd. during study period.
7. Average ICR of CCI Ltd (11.56 times) indicates better interest coverage and solvency position than the industry (5.2 times) during the study period.
8. Industry average TATR has been greater than that of CCI Ltd. during the period of study. It Indicates that CCI Ltd. has been lesser efficient in generating sales with the help of its assets than the industry average efficiency.
9. Average WCTR of CCI Ltd. (0.36 times) has been much lower than industry average WCTR indicating poor working capital management of CCI Ltd and revealed the fact that the company has not been able to use its working capital to generate sale.
10. Sales Growth of CCI remained lower than the industry average ratio over the study period except in 2005-06 and 2013-14. Average SG of CCI Ltd. has been lower than the industry average during the study period.

Findings based on DuPont Analysis

The trend obtained through DuPont Analysis revealed that return on equity was very poor during the study period. On the basis of DuPont analysis, it is clearly visible that the company has not been able to fetch adequate profit during study period. Low leverage effect, low asset turnover and low sale volume gave very poor return on equity during the study period. Net profit margin of CCI Ltd was very low during the entire period of the study. It was 4.26 per cent in 2005-06 which declined during subsequent years and reached to 0.03 percent in 2012-13. Equity multiplier was comparatively in better condition as compared to net profit margin and asset turnover. It was 3.77 per cent in 2005-06 which declined during subsequent years and stood at 1.85 per cent in 2014-15.

Findings Based on Regression Analysis

1. The results of Regression Analysis determining the impact of liquidity ratios on return on capital employed. The value of significance is *($p = 0.127$)* which is greater than the 0.05, therefore the impact of CR on ROCE is statistically insignificant.
2. The impact of LR on return of capital employed of CCI, it can be seen from simple regression analysis that the effect of LR on ROCE is statistically significant ($p = 0.047$).

3. The results of Regression Analysis revealed that the Cash Position Ratio has negative impact on ROCE. Further, the value of significance is *(p = 0.034)* is less than 0.05. Therefore, the impact of CPR on ROCE is statistically significant.
4. The significance value of .001 (p < 0.05), indicating a significant impact of DER on ROCE.
5. The significant value is 0.000, which is less than the critical value i.e. 0.05, which shows that there is no significant impact of ICR on Return on Capital Employed of CCI Ltd.
6. The value of significant is *(p = 0.000),* less than 0.05, therefore, the impact of PR on ROCE is statistically significant.
7. It is observed that the significant value is 0.039 which is less than the critical value i.e. 0.05. Therefore, the impact of STOR on ROCE is statistically significant.
8. The results reveals that the TATR has a negative impact on ROCE Further, the value of significant is *(p = 0.012)* less than 0.05. Therefore, the impact of TATR on ROCE is statistically significant.
9. The resultreveals that the WCTR has negative impact on ROCE.Further, the value of significant *(p = 0.006)* is less than 0.05, therefore, the impact of WCTR on ROCE is statistically significant.
10. It has been observed that the value of sig (*p* = 0.009) is less than the critical value (0.05), therefore, the impact of sales on net profit ratio is statistically significant.

Findings based on Paired t test (Impact of Financial Restructuring on Financial Performance of CCI Ltd.)

1. The t value of -2.998 with the significance value (two-tailed) of 0.017implies significant impact of financial restructuring on current ratio of CCI.
2. The t value of -2.478 with significance value (two-tailed) of 0.38, indicates significant impact of financial restructuring on GPR of CCI Ltd.
3. The t value of -3.283 and significant value (two-tailed) of 0.011, indicates significant impact of financial restructuring on ROCE of CCI.
4. The t value is 6.799 and significance value (two-tailed) or p value is 0.00 indicating significant difference impact of financial restructuring on DER of CCI.

5. The t value is and -5.137 significance value two (tailed) or p value revealed significant impact of financial restructuring on total asset turnover ratio of CCI.

Findings based on Result of one sample t-test (Comparison of financial ratios of CCI Ltd with their industry averages ratio)

1. The t value of 1.593 with significance value of 0.146 observed mean of CR is not significantly different from the industry average.
2. The t value of -8.533 with significance value of 0.00(Sig. > 0.05) indicates observed mean of ROCE is significantly different from the industry average.
3. The *p*-value of .000 which is lower than the level of significance 0.05 indicates that the RONW of CCI is significantly different from the industry average.
4. The lower value of significance (Sig. < 0.05) indicates that observed mean of DER is significantly different from the industry average.
5. The significance value of 0.486, which is higher than the level of significance 0.05 clearly shows that the Sales Growth of CCI is not significantly different from the industry average.
6. The significance value of the test is .000, which is lower than the level of significance (Sig. < 0.05). It shows that the TATR of CCI is significantly different from industry average.
7. The lower value of significance indicates that observed mean of WCTOR is significantly different from its industry average.

Findings based on Altman Z score analysis of CCI Limited

From the analysis, it is found that the Z-Score of CCI Ltd has been lower during the study period. It has been ranging from 1.76 to 0.99 during the entire study period, except in 2005-06 i.e. 1.76. The Z score values of CCI have been lower than 1.23 (bankruptcy zone). So, it can be concluded that the company is not in safe position, as the Z-Scores values for the company have fall in the bankruptcy zone (below1.23 score). It predicts financial distress for the company in next two years. From the analysis, it is revealed that CCI Ltd has been in condition of financial distress and fall in bankrupt zone during 2006-07 to 2014-15, the company is prone to bankruptcy in coming years.

CONCLUSION BASED ON FINDINGS OF THE STUDY

The present study is an analytical and fact-finding research that analyzed the importance and nature of financial performance of CCI in detail. The Indian cement industry contributes a considering share in the Gross Domestic Product (GDP) of the country. The future of the Indian Cement Industry is promising and its growth potentials are high as there is sufficient domestic demand of cement and allied products. Meeting of the requirement of domestic consumption growth and demand impose a tough challenge for the Indian Cement Industry. In the early 1990s the Government of India initiated major trade policy reforms, which favored increasing privatization and liberalization of all sectors of the economy including the Indian cement industry. It will be beneficial to study and analyze the financial performance of CCI Ltd and to suggest measure to boost up production, trade thus, improve its profitability.

India is a second leading consumer of cement and allied products and also constitutes important percentage of its export. Proper policies and financial restructuring of CCI Ltd. is required because CCI Ltd. is an important player in this area and it is also on the most important Central Public Sector Enterprise (CPSE), which can be managed favorably for cement in particular and national policy goals in general. CCI Ltd is undergoing through its toughest face since inception and therefore there is an urgent need of a revival plan for a company in order to avoid creeped management and inefficiently turning the company towards the negative quadrants.

Cement industry is also one of the key sectors of Indian economy. There are a number of Indian companies which are involved in the business of cement at national and international level. ACC cement, Ultratech cement, Ambuja cement etc., are the main competitors of CCI Ltd. Many of the large and medium sized firms, which have underwent a restructuring process of financial restructuring, not only to survive in this intense competition but also emerged as successful global firms. The CCI Ltd. unfortunately, was declared sick and brought under the Board for Industrial and Financial Reconstruction (BIFR) due to continuing losses and erosion of net worth, in 1996-97 and by BIFR the rehabilitation scheme of CCI Ltd. sanctioned in 2006-07.

The Researcher has evaluated the financial performance of CCI Ltd. by taking the financial statements of the company into consideration. The analysis and interpretation of Data has yielded a number of valuable findings, which can be used by the management of CCI Ltd. to take valuable decisions for the enhancement in the

financial position of the company so that it can come out from the unhealthy zone. Moreover, these findings will be very useful to CCI Ltd for further consideration and investigation. To fight that situation we have pointed out that there is a need of fresh investment in current assets (i.e., working capital), and in fixed assets by the way of procuring and installing some advanced machines and technologies for improving production and productivity. It can also concluded that for improving a liquidity position of CCI Ltd. in the present situation the company may take few steps besides, trying for outside funds, like to increase in sales revenue, to speed up debtors' collection, to control some expenditures, to sale some assets (also recommended by BIFR), if any, which have become obsolete etc. and cost reduction to improve profitability.

From the analysis and interpretation of data it can be concluded that the financial position of the company is not quite satisfactory in terms of liquidity and solvency position.

With the help of analysis of liquidity ratios, it is found that the liquidity position of CCI Ltd has been poor during the study period. During initial years of the study, liquidity ratios of the company have been lower than the standard norms and their industry averages indicating condition of financial distress during these years. During initials years of study, CCI Ltd has not been able to meet its short term obligations. However, during the subsequent years, liquidity ratios of CCI Ltd were higher than the standard norms as well as their industry average indicating blockage of funds in current assets and liquid assets. The company was not using blocked fund in operations which might have increase the efficiency and profitability of the company during these years. Lower working capital during the study period as well as negative working capital in some years of the study indicates poor liquidity position of the company during the study period.

Long term solvency position of CCI Ltd was found unsatisfactory during the study period. Solvency position of CCI Ltd has significantly impacted profitability of the company during study period. DER of the company was lower than the standard norm and its industry average during the study period revealing that the company was not trading on equity. However, interest coverage position of CCI Ltd has been better than its industry average over the study period indicating better interest coverage position during these years.

Researcher evaluated the profitability position of CCI Ltd. in two terms i.e. in terms of sales and in terms of investment. The profitability position of the company has been poor in terms of sales as well as in terms of investment. However, Profitability of the company was exceptionally high during 2005-06. Gross profit ratio of the company has been satisfactory during study period but net profit ratio and operating profit ratio of the company was much lower than the gross profit ratio indicating operating expenses of the company has been very high during the study period.

Efficiency ratios of the company have been unsatisfactory during the study period indicating poor management efficiency of the company. Stock turnover ratio of the company indicates that the company has not been able to use its inventory to generate sales. Asset turnover ratios were found very low revealing inefficiency of management of the company to utilize the assets of the company to generate sale. Vary low and negative working capital turnover ratios during study period shows insufficient working capital which has not been managed and utilized properly during study period. However, debtor's turnover ratio of the company has been good during study period.

From the findings of data analysis of financial restructuring of the CCI Ltd., it can be concluded that in a long run there has been a significant impact of financial restructuring on liquidity, profitability, solvency and efficiency position of the company which have made healthier improvement in the financial position of the company.

Altman Z score analysis has also revealed that the financial health of CCI Ltd. Has not been satisfactory during the study period and average Altman Z score value predict sign of failure of the business in near future or in long run.

SUGGESTIONS

Suggestions for improving the Liquidity position of CCI Ltd.

1. It is suggested that CCI Ltd should maintain its current ratio close to its standard norms so as to meet short term obligations.
2. The company must maintain adequate amount of liquid assets in order to meet short-term commitments and emergency requirements.
3. Possible effort should be made to resolve their working capital crisis.

Suggestions for improving the Leverage/solvency position of CCI Ltd

1. The Debt to equity position of the company has been unsatisfactory. It may be suggested that CCI Ltd should make use of more debt to trade on equity.

2. The Interest Coverage Ratio of the company has been satisfactory during most of the study period. Therefore, it is suggested that SAIL should make use of financial leverage by using long term debt fund.

Suggestions for improving the management efficiency of CCI Ltd

1. *Asset management* of CCI Ltd, the management of the company is advised to detect the reasons and make possible effort to solve them as far as practicable.
2. *Inventory management* of CCI Ltd, it is suggested that the level of inventory should be fixed up scientifically in order to avoid the problem of under-stocking and over-stocking.
3. It is suggested that management should further improve its receivable management, should further reduce the credit period and should strengthen the debt collection efforts.
4. It is suggested that management should maintain a reasonable level of current assets and current liabilities and should utilize its working capital efficiently to generate the sale.

Suggestions for improving the profitability of CCI Ltd

1. Effective cost management is advised to improve profitability of CCI Ltd.
2. CCI Ltd is suggested to reduce operating expenses to improve the profitability.
3. It is advised that CCI Ltd should reduce its operating expenses by focusing on cost management and improving operational efficiency.

Other suggestions

1. Policy of disinvestment should be implemented by the company for increasing the stake of private players.
2. The company must acquire the capital at low cost to get more positive impact profitability of the company.
3. CCI Ltd. can improve its business by focusing on international markets.
4. Company should increase production and improve its production activities in order to fulfill the domestic requirements.
5. The CCI Ltd. can increase its trade volume by exploring and identifying new markets for its product both nationally and internationally.
6. Marketing and selling of cement and its allied products is the main concern of CCI Ltd. So, it needs to keep in mind that the policies made by the Government should be favorable for the company itself.

7. The company should open its shops, showrooms in urban as well as rural areas of the country
8. In order to compete globally, the company should step up to other areas for marketing and sales in its current business.

DIRECTIONS FOR FUTURE RESEARCH

The researcher has covered key financial aspects of this corporation. However, there is a wide scope for further studies as well;

- There are a number of state owned corporations engaged in the business of cement and allied products. The researcher has taken up only one corporation for the study. So, the future researchers may evaluate the financial performance of similar companies like ACC, Birla, Ambuja, JK Laxmi etc.
- Since only financial aspect of this corporation has been analyzed, many other aspects such as human resource management, marketing strategies, costing method, managerial decision, inventory management etc can also be studied in future.
- This study is of a limited period of ten years i.e. from 2005-06 to 2014-15. Still, financial performance can be evaluated in further periods of time. Thus, this field is always open for further researches.
- In this study, the impact of functional ratios were found on financial performance of CCI Ltd, further studies may be undertaken to find impact of firm specific variables and macroeconomic variables on financial performance of firms.
- Present study analyze financial performance of one public sector company in cement industry, further studies can be undertaken to compare financial performance of private and public sector enterprises in cement industry.

AN APPRAISAL OF FINANCIAL PERFORMANCE OF CEMENT CORPORATION OF INDIA LIMITED, SINCE 2005

THESIS

SUBMITTED FOR THE AWARD OF THE DEGREE OF

Doctor of Philosophy
In
Commerce

BY

MOHD. AJMAL

UNDER THE SUPERVISION OF

DR. MOHD. YAMEEN
(ASSOCIATE PROFESSOR)

DEPARTMENT OF COMMERCE
ALIGARH MUSLIM UNIVERSITY
ALIGARH (INDIA)

2016

D edicated

T o M y

B eloved P arents

ANNEXURE- I
CANDIDATE'S DECLARATION

I, **Mohd. Ajmal**, Department of Commerce certify that the work embodied in this Ph.D thesis is my own bonafide work carried out by me under the supervision of **Dr. Mohd. Yameen**, Associate Professor, Department of Commerce, Aligarh Muslim University, Aligarh. The matter embodied in this Ph.D. thesis has not been submitted for the award of any other degree.

I declare that I have faithfully acknowledged, given credit to and referred to the research workers wherever their works have been cited in the text and the body of the thesis. I further certify that I have not willfully lifted up some other's work, para, text, data, result, etc. reported in the journals, books, magazines, reports dissertations, theses, etc., or available at websites and included them in this Ph.D. and cited as my work.

Dated: 20/6/2016

(Signature of the Candidate)

Mohd. Ajmal

Certificate from the Supervisor

This is to certify that the above statement made by the candidate is correct to the best of my knowledge.

(Signature of the Supervisor)

Dr. Mohd. Yameen

(Associate Professor)

Department of Commerce

Aligarh Muslim University, Aligarh.

20/6/2016

Chairperson
Department of Commerce
Aligarh Muslim University
Aligarh

(Signature of the Chairman of the Department with Seal)

ANNEXURE-II

COURSE/COMPREHENSIVE EXAMINATION/PRE-SUBMISSION SEMINAR COMPLETION CERTIFICATE

This is to certify that **Mr. Mohd. Ajmal**, Research Scholar, Department of Commerce has satisfactorily completed the course work/comprehensive examination and pre-submission requirement which is part of his Ph.D. programme.

09/6/2016

Dated: 09.06.2016

(Signature of the Chairperson)

Chairperson
Department of Commerce
Aligarh Muslim University
Aligarh

ANNEXURE- III
COPYRIGHT TRANSFER CERTIFICATE

TITLE OF THE THESIS

AN APPRAISAL OF FINANCIAL PERFORMANCE OF CEMENT CORPORATION OF INDIA LIMITED, SINCE 2005

CANDIDATE'S NAME: MOHD. AJMAL

Copyright Transfer

The undersigned hereby assigns to the Aligarh Muslim University, Aligarh copyright that may exists in and for the above thesis submitted for the award of the Ph.D. degree.

Signature of the Candidate

Note: However, the author may reproduce or authorize others to reproduce material extracted verbatim from the thesis or derivative of the thesis for author's personal use provide that the source and the University's copyright notice and indicated.

Acknowledgements

First and foremost I bow in deep reverence to ***"Almighty Allah"****, who is the source of entire knowledge and wisdom endowed to mankind.* ***Allah*** *the most merciful, most beneficent, most adorable, who is omnipresent, omnipotent and omniscient to whom I indebted and I bow my head before* ***"Almighty Allah"*** *for paying my thanks.*

My vocabulary fails in expressing my indebtedness to my mentor and supervisor ***Dr. Mohd.Yameen****, Associate Professor, Department of Commerce, Aligarh Muslim University, for his excellent spirit, vigilant guidance, sustained interest, constructive criticism, inexhaustible encouragement, benevolent behaviour and valuable suggestions throughout the course of research in a benign and amiable atmosphere.*

I am particularly grateful to ***Prof. Javed Alam Khan****, Chairman, Department of Commerce,* ***Prof. Nawab Ali Khan****, Dean Faculty of Commerce, for allowing me to work to the best of my ability. Their kind support and worthy suggestions have been of great value in this study.*

I am highly thankful to ***Prof. Badar Alam Iqbal****, Ex Chairman, Department of Commerce, for his kind support and worthy suggestions which have been of great value in this study.*

I highly indebted to my learned teachers ***Prof. M. Mohsin Khan****, Ex. Dean Faculty of Commerce and* ***Prof. Sibghatullah Farooqui*** *and* ***Prof. Ziauddin Khairoowala*** *Ex. Chairman, Department of Commerce, for their valuable suggestion, moral support, constant encouragement and cooperation.*

I owe my sincere gratitude towards ***Dr. Mohd. Shamim,*** *Department of commerce and* ***Dr. Asif Akhter,*** *Department of Management Studies, A.M.U Aligarh for their admirable guidance in the statistical tools applied in the study. They have always supported me with their valuable guidance and cooperation.*

I also wish to put my immense gratitude to all the teachers of the Department of Commerce to encourage me to enrich this work with their suggestions.

I must acknowledge the role of Maulana Azad Library of Aligarh Muslim University in collecting my reference and context materials to form the basis of my reading and our Seminar incharge ***Mr. Anees Ahmad*** *and* ***Mrs. Imrana Zehra Jafri*** *for providing me the required research material with a lot of patience and for assisting me in many*

different ways. I am also thankful to the staff of the Chairman and Dean Office especially ***Mr. Akram*** *and* ***Mr. Abdullah*** *for their help and support.*

I convey my very special acknowledgements to ***Mr. Asif Pervez*** *,* ***Dr. Syed Mohd Taqi, Mr Faisal Waris, Mr Musa Ahmad Khan, Syed Jamal Mahmood, Dr. Wajiha Fatima*** *and* ***Sabah Javed*** *for their friendly gestures, unconditional support and help at every stage of my research.*

I must appreciate my friends, ***Izhar Ahmad, Adnan Sherwani, Shoeb Ahmad, Mohd Yunus*** *and* ***Shan Mustafa*** *for their immense support, invaluable affection and elderly advises. They instilled in me the confidence that I can go ahead for the submission of my thesis by a thorough and painstaking reading of the final draft of my manuscript.*

My parents deserve a very special mention for their inseparable support and prayers and for all their love and encouragement that fully supported me for every trial that came in the way. My father, ***Mr. Waseem*** *and My Mother,* ***Mrs Sanjeeda Khatoon,*** *have always been my strength. Their continues support, guidance, cooperation and encouragement has taught me different aspects of life, their constant motivation and infallible love have always kept me going ahead. I owe my deepest gratitude for their eternal support and understanding of my goals and aspirations. Their patience and sacrifice will remain my inspiration throughout my life. My parents are my angels and they deserve a far more credit than I can ever give them. Without their help I would not have been able to complete much of what I have done and become who I am.*

I have no words to express my deep vote of thanks to my brothers, ***Mohd. Faisal*** *and* ***Mohd. Akmal*** *for their love, support and patience for bearing me all through....thanks for being the most caring siblings!!!*

I apologize for any omission of scholarly indebtedness, all of which, like the other fault of this thesis are quite unintended but wholly mine. Last but not the least a word of gratitude for all my well wishers, whom I have mentioned or not but I recognize their contribution directly or indirectly. I will always be indebted to all those who have supported me in my endeavour with their love and inspiring words.

Mohd. Ajmal

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES/CHARTS

LIST OF ABBREVIATIONS

ACC	Associated Cement Companies Limited
ANOVA	One way Analysis of Variance
BIFR	Board for Industrial and Financial Reconstruction
BSE	Bombay Stock Exchange
CAGR	Compound Annual Growth Rate
CCCL	Chettinadu Cement Corporation Limited
CCI Ltd.	Cement Corporation of India Ltd.
CISA	Certified Information Systems Auditor
CMIE	Centre for Monitoring Indian Economy
CPR	Cash Position Ratio
CPSEs	Central Public Sector Enterprises
CR	Current Ratio
CSR	Corporate Social Responsibility
DER	Debt Equity Ratio
DPE	Department of Public Enterprises
DPS	Dividend per Share
DTOR	Debtor Turnover Ratio
EBIT	Earnings before tax
EPS	Earnings per Share
et. al	et alia (and others)
etc	Etcetera
EVA	Economic Value Added
FDI	Foreign Direct investment
FY	Financial year
GDP	Gross Domestic Product
GOI	Government of India
GPR	Gross Profit Ratio
IBEF	India Brand Equity Foundation
ICI	Indian Cement Industry
ICR	Interest Coverage Ratio
IDBI	The Industrial Development Bank of India
IMF	International Monetary Fund
IMY	Indian Minerals Year Book
ISO	International Organization for Standardization

Kg	Kilogram
LR	Liquid Ratio
Ltd	Limited
MT	Million Tonnes
MVA	Market Value Added
NBFCs	Non Banking Financial Company
NPA	Non Performing Assets
NPR	Net Profit Ratio
NSE	National Stock Exchange
OR	Operating Ratio
P value	Probability Value
PAT	Profit after Tax
PBT	Profit befor tax
POI	Parliament of India
PR	Propriety Ratio
PSE	Public Sector Enterprises
PSUs	Public Sector Undertakings
ROA	Return on Assets
ROCE	Return on Capital Employed
ROE	Return on Equity
ROI	Return on Investment
Rs	Indian Rupees
S.D	Standard Deviation
SG	Sales Growth
Sig.	Significance
SPSS	Statistical Package for the Social Sciences
STOR	Stock Turnover Ratio
TANCEM	Tamil Nadu Cement Corporation Ltd.
TATR	Total Asset Turnover Ratio
USA	United States of America
VRS	Voluntary retirement Scheme
WTCR	Working Capital Turnover Ratio
WTO	World Trade Organisation

Chapter – 1

Introductory Background of the Study

1.0 INTRODUCTION

Cement is the most essential raw material which is used for all kind of construction activities. It plays a crucial role in the infrastructural development of any nation, especially in a vast country like India, which has a big geographical size and a massive population. Cement is also an essential component of infrastructure development and the most important input for construction industry particularly in the Government's infrastructure and housing programs which are necessary for the country's socio-economic growth and development. There are various construction activities undertaken by the Central Government, State Governments, Public Sector Undertakings and other organizations including private sector, which create a huge demand for cement. Provision for a housing facility is the first and foremost requirement of every household and therefore the market demand of cement, for private consumption has been increasing constantly. Cement is the second highest consumed material in the world. The Indian cement industry is the second largest producer of cement in the world just behind China and ahead of the United States and Japan. Also, the cement industry is an important contributor to the revenue collected by both the Central and the State Governments through excise and sales taxes(Kumar & Bansal, 2013).

The oldest use of cement dates back to thousands of years old Egyptian civilization. They used natural cement which was made up of limestone and gypsum for the construction of their massive and highly impressive pyramids. The very fact that the Egyptian pyramids have proudly stood the test of time and withstand centuries of forces of nature over such a long period of human history is a testimony to the phenomenal strength of cement. Although, it must be stated that the cement used in ancient Egypt was very different from the cement in use today. Later, The Romans discovered that a mixture of Lime andvolcanic ash not only made a hard and reliable mortar but it also hardened under water. The Roman hydraulic cement called Pozzolana was used for centuries and even after 2000 years, it still holds together famous structures such as the Coliseum and the Pantheon. To manufactures cement, Romans used a combination of slaked lime with *Pozzolana*, a volcanic ash from

Mount Vesuvius. By using this cement, the Romans made many impressive structures. The Basilica of Constantine is an example of Roman construction in which they used such cement mortar. They also used volcanic ash (*pozzolane*) as the cementing material in a primitive hot effective type of concrete (Low & Tan, 1993). The Romans knowledge was all but lost until 1756. It was when John Smeaton, a British engineer, rediscovered hydraulic cement. Smeaton had been commissioned to rebuild a lighthouse on the English Channel and was faced with the herculean task of building a brick tower in partially submerged rocks. Through research, he found that clayey limestone burned at a certain temperature and slaked (mixed with water) produced cement that not only would set under water but was strong enough to withstand the forces of winds and tides. Smeaton also discovered that a supply of volcanic ash, imported from Italy, when mixed with limestone and burned together, changed into cement that was not only hydraulic and strong but also had the quality of quick setting (Front et al, 2005).

In 1824 Joseph Aspdin, a mason and bricklayer in Leeds, made a mixer of limestone and clay, ground it very tine, mixed it with 'rarer and then allowed it to dry. He ground it up again, burned it in a lime kiln to drive off all the carbonic acid on the stone and ground it at final time. Aspdin called the resulting powder' as Portland cement (Front et al, 2005). Portland cement, the most widely used cement today, believed to have been invented by Joseph Aspdin of Leeds, a bricklayer by trade, who took out patent in 1824 for a synthetic mixture of limestone and clay (Low and Tan, 1993).There are a number of private and public sector companies of India that are engaged in the manufacturing and trading of cement. ACC Cement, Birla Cement, Ambuja Cement, Cement Corporation of India Limited and J.K. Laxmi are few examples of the leading cement manufacturing companies in India.

The Central Public Sector Enterprises (CPSEs) have been established and are managed and controlled by the Government of India as government companies, under the companies act or statutory corporations under the specific statues of parliament. In such enterprises, the central government holding in paid up share capital, is more than 50 per cent. The government uses these public enterprises as an instrument for enabling the country to attain self-reliant economic growth and over the years these enterprises have also played an eminent role in the sustainable growth of Indian economy. The Government has made sustained efforts to break the vicious circle of

poverty and underdevelopment by setting up PSE or by nationalizing certain industries (Jain, et al 2014).

In view of the increasing demand and the scarcity of cement, the price and distribution control was completely removed by the Government in the year 1989 and therefore, Indian cement industry was de-licensed in 1991. According to the Ministry, the liberalization process provided the much desired boost to the cement industry and the growth was quite visible. This decision of the government leads to appreciable growth in terms of 100 million tonnes capacity addition during the decade from 1999 to 2009. This capacity addition of cement manufacturing during the decade, could match the capacity addition built over a period of eight decades prior to that. The first cement enterprise in India was set up at Porbundar, Gujarat in 1914, having a production capacity of 1000 tonnes per annum, thus making the cement industry about a century old industry in India. Currently, the Indian Cement Industry is the second largest cement producer in the world, second only to China. India's share in the world's cement production is around 6 per cent and the cement industry comprises 154 large cement plants, with an installed capacity of 230.82 million tonnes, employing 1.35 lakh persons directly. The cement industry underwent rapid technological up gradation and vibrant growth during the last two decades. Some of the cement plants in the country can be compared in every respect with the best operating plants in the world (POI, 2011).

The Indian cement industry occupies a position of predominance not only as one of the basic infrastructure industries for development but also because it is the 2nd largest cement industry in the World, which directly employs almost one lakh persons. It constitutes a very important segment of the modern industrial economy of India. Initially, industrial policies were based primarily on revenue, without any regard to country's industrial development. A 'free import policy' made the survival of existing industrial concerns very hazardous. Besides, the discouraging attitude of the government towards industrialization, the lack of pioneering spirit and availability of capital among Indians, coupled with the fear of foreign competition, were responsible for initial industrial backwardness in the country. Due to all these factors, prior to the year 1914 when India entered into its cement era, the economic and political circumstances in India were detrimental to a considerable extent. In India cement as a building material has been known in one form or another since the time of ancient

Sind civilization at Mohenjodaro. Although, cement has a long history of its use in India, its manufacturing is relatively of recent origin. In India, the cement era commenced with the establishment of a small cement factory at Madras in 1904, by South India Industrial Ltd, a company that dates back to 1879. The capacity of this plant was only 10,000 metric tonnes per annum. Almost the entire invested capital of Rs. 9 lakhs, was owned by Indians. This was the first attempt of its kind to manufacture Portland cement with the calcareous sea-shells as principal raw materials. There was sufficient demand for the product but due to technological defects and inadequate and irregular supply of raw materials, the plant could not operate economically and ultimately it collapsed. The real foundation of the present cement industry was laid in the year 1912, when a small factory was established at Porbandar in Kathiawar, by the India Cement Company Ltd. This factory commenced its production in 1914, with a production rate of about 100 metric tonnes per day. This company adopted 'dry processes' in stationary intermittent operation, on vertical kilns, which were changed to continuous rotary kilns subsequently. This plant had an easy access to limestone quarries of Porbandar. Also, it was situated only 300 and 1,500 miles away from Bombay port and Bengal coal fields, respectively. The authorized capital of the enterprise was Rs.60 lacs and the paid up capital during the first year of its operation stood around Rs.7 lacs which increased to Rs. 20 lacs by 1920. Karachi, Gujarat, Bombay and Madras were its principal cities (Das, 1987).

The cement industry in India was continuously growing year by year, both in terms of production and in terms of installed capacity. The Indian cement industry has gone through various phases in the course of development. The industry which once was fully controlled by the government, experienced partial control during the eighties and today, it has been completely decontrolled (Mathur, 2001). Price and distribution controls were lifted on 1st March, 1989 and licensing has been abolished since 25th July 1991. This gave fresh impetus to the key infrastructure industry. However, the performance of the industry improved all the more after late 1990s guiding it to newer heights. The process of improvement in key performance indicators of the industry can be analyzed during changing policy regimes of the government. All the indicators are grouped into primary and other indicators, which clearly reflect the status of the industry during control and decontrol periods (Burange & Yamini, 2009).

The Indian cement industry comprises of 183 large cement plants and more than 360 mini cement plants. Large producers contribute about 97 per cent to the installed capacity while mini plants account for the rest. Among these, 98 per cent of the capacity is in the private sector and the rest in public sector (Ministry of Commerce and Industry, 2013). The Working Group on Cement Industry constituted by the Planning Commission for the 12th Five-Year Plan period, has projected a demand growth at the rate of 10.75% per annum during the plan period at an expected 9% GDP growth rate. The Working Group expects that the additional installed capacity requirement would be 139.7 million tonnes by 2017 and 1035.3 million tonnes by 2027 (Indian Minerals Yearbook, 2011).

1.0.1 Public Sector Enterprise of India: An overview

The Central Public Sector Enterprises (CPSEs) have been a strategic lever for Indian economic development in both pre-independence and post-independence era. In pre-independence era there were very few CPSEs in India which were centric to Railways, Posts and Telegraphs, Port Trust, Ordinance Factories, All India Radio, Aircraft factories, etc. Over the years, CPSEs not only have grown in numbers but also in the range of activities such as manufacturing, engineering, cement, heavy machinery, textiles, pharmaceuticals, petro-chemicals, etc(Assocham,2011)**.**Central public sector enterprises have been established, managed and controlled by the Government of India as government companies (under the Companies Act or Statutory Corporations under the specific statues of Parliament). In these enterprises, the Central Government holding in paid up share capital is more than 50 %. The government has used these public enterprises as an instrument for attaining self-reliant economic growth and over the years they have played an eminent role in the sustainable growth of Indian economy. The importance of public sector in the Indian economy has been recognized since 1948. The public sector in India, since then, has experienced a phenomenal growth both in terms of number and volume of investment. The government has made sustained efforts to break the vicious circle of poverty and underdevelopment by setting up public sector enterprises or by nationalizing certain key industries (Jain et al., 2014). Public Sector Enterprises have been playing a dominant and unique role in industrial growth and development of Indian economy. In order to dismantle the accumulated problems of unemployment, disparities of rural and urban, inter-regional and inter-class disparities and technological backwardness

and to set up a socialistic pattern of society in the country, establishment of public enterprises have been conceived. In view of this type of socio-economic set up, Indian visionary leaders drew up a roadmap for the development of Public Sector as an instrument for self-reliant economic growth. This guiding factor led to the passage of Industrial Policy Resolution of 1948 and followed by Industrial Policy Resolution of 1956 (Ghouse, n.d).

Since inception, PSEs have been the mainstay of the Indian economy and were set up with the mandate to (Jain et al., 2014):

- Serve the broad macroeconomic objectives of higher economic growth.
- Achieve self-sufficiency in the production of goods/services.
- Facilitate long-term equilibrium in the balance of payments.
- Ensure stability in prices and create benchmarks for prices of essential items.
- Promote redistribution of income/wealth and balanced regional development.
- Create employment opportunities**.**

Presently, there are 277 Central Public Sector Enterprises (CPSEs) under the administrative control of various Ministries / Departments as on 31.3.2013. Out these 277 CPSEs, 229 were in operation and 48 CPSEs have yet to commence business. Out of 229 operating CPSEs as many as 149 CPSEs showed profit during 2012-13, 79 CPSEs incurred losses during the year and one CPSE has shown No Profit / No Loss (DPE, 2014).

The dominant consideration for the continued large investments in public sector enterprises was to accelerate the growth of core sectors of economy, to serve the equipment needs of strategically important sectors like Railways, Telecommunications, Nuclear Power, Defense etc. and to provide a springboard for the economy to achieve a significant degree of self-sufficiency in the critical sectors. The rationale for setting up public enterprises was to ensure easier availability of vital articles of mass consumption, to introduce checks on prices of important products, to help in promotion of emerging areas like tourism, etc. A large number of enterprises were created out of "Sick Units" taken over from the private sector inter alia, to protect the interests of the workers. A number of public enterprises were created to operate in national and international trade, consultancy, contract and construction services, inland and overseas communications, etc. The overall constitution of public sector enterprises in India is, thus, a heterogeneous conglomeration of basic and

infrastructure industries, industries producing consumer goods, industries engaged in trade and services and cement industry etc. ("Public sector",n.d.).In cement industry CCI is only central public enterprise in India.

1.0.2 Cement Corporation of India: A Brief Profile

Cement industry in any country plays a major role in the growth of the nation. Cement industry in India was under full control and supervision of the government. However, it got relief at a large extent after the economic reform. But government interference, especially in the pricing, is still evident in India. In spite of being the second largest cement producer in the world, India falls in the list of lowest per capita consumption of cement with a consumption of 125 kg. The reason behind this is the poor rural people who mostly live in mud huts and cannot afford to have the commodity. Despite this fact, the demand and supply of cement in India has grown up. In a fast developing economy like India, there is always large possibility of expansion of cement industry. In the Indian cement industry, there is only one central public sector undertaking, i.e. Cement Corporation of India Limited (CCI) which has ten production units, spread over eight States/Union Territories. Apart from for Bokajan, Rajban and Tandur units, remaining of the cement plants are lying closed for almost a decade or more. (IMY,2011). The Cement Corporation of India suffered huge losses right since the inception of the operation of its plants. The Corporation continued to incur loss which subsequently assumed proportion of a crisis. Cement Corporation of India Ltd (CCI Ltd.) was incorporated as a wholly owned Government of India enterprise, on 18th January 1965 with the principal objective of achieving self-sufficiency in cement production. The authorized and paid-up capital of the Cement Corporation of India**,** as on 31st March, 2012 was Rs. 900 crore and Rs. 811.41 crore (including Rs.41.75 crore for share application money pending allotment), respectively. In 1990, the Government of India came out with a slew of measures in favor of the cement industry in the form of transport subsidy and capital subsidy and waiver of excise duty and sales tax. The new plants commissioned in remote and backward regions or the old ones already functioning there and expanding their capacity for producing more cement, were eligible for those benefits while the private players could avail those incentives. However, Cement Corporation of India lagged behind as it hardly could take any step for capacity addition. Over the years the mounting losses sharply eroded its net worth. By the middle of 1990s, CCI Ltd.

suffered accumulated losses to the tune of Rs. 527.16 crore. That staggering amount was more than it's paid up capital of Rs. 406.74 crore and reserves worth Rs. 0.99 crore. The collapse of the net worth sounded alarm bell to safeguard the very survival and commercial viability of the Corporation. It graduated from a loss making Corporation to a sick industrial undertaking. It, therefore, resulted in its reference to the BIFR under section 15(1) of CISA and was declared sick in August 1996.

The employees working in those units were kept under the category of Voluntary Separation Scheme to get rid of unproductive fixed expenses. The liabilities of the company were further reduced due to the waiver of interests, penalties and surcharge on the Government dues. Due to sickness of the company and the adoption of successive Voluntary Retirement Scheme (VRS) the strength of executives of the CCI operated plants got reduced from 531 to 206 during 2000-04. The ban on recruitment and the absence of induction of new employees since 1998 has further added to the problem. The shortage of manpower has thus badly affected the operational function of the units. The rehabilitation scheme sanctioned by BIFR on 3 May 2006, suggested the closure of seven unviable plants located in Mandhar, Kurkunta, Akaltara, Charkhi Dadri, Delhi Grinding Unit, Bhatinda Grinding unit, Nayagaon and Adilabad and sale of assets of those plants through Asset Sale Committee.

All Factories, Zonal Offices and the Corporate Office at Delhi, are inter connected via Internet. In line with the advancement in cement technology, CCI has been adopting the latest one million tonnes plants at Tandur and Nayagaon. CCI manufactures various types of cements like Portland Pozzolana Cement (PPC), Portland Slag Cement (PSC) & Ordinary Portland Cement (OPC) of varying grades viz 33, 43,53 and 53S(special grade cement used for the manufacture of sleepers for Indian Railways) grades under strict quality control with the brand name of CCI Cement.

CCI Ltd. has, as on 31th march 2012. A strong work-force of 907 employees and it has always encouraged a balanced regional growth which is evident from the fact that most of its factories are located in underdeveloped/backward areas. Also, CCI Ltd. has been contributing to the development of areas around its factories by adopting nearby villages and providing basic facilities like schools, health centers, drinking water etc. For maintaining the ecological balance CCI Ltd. is launching

massive tree plantation drives from time to time at all units and in surrounding areas. The units are spread throughout the country from East (Bokajan in Assam) to West (Akaltara, Mandhar in Chhattisgarh and Nayagaon in Madhya Pradesh) and from North (Rajban in Himachal Pradesh and Charkhi Dadri in Haryana) to South (Kurkunta in Karnataka and Adilabad, Tandur in Andhra Pradesh), with one cement grinding unit in Delhi (CCI, Ltd. n.d). In the present study an attempt has been made to analyze financial performance of CCI Ltd. for a period of ten years ranging from 2005 to 2014.

The sound performance of any industry reflects as to how effectively and efficiently resources are being utilized. Performance is an indicator for the management accomplishing the goals that are being set for the enterprise. It is the measure of a degree to which an organization fulfills its purpose and tries to achieve its objectives and goals. There are various aspects to measure the performance viz. marketing, human resource, operations and finance being major areas for measurement of overall performance of any organization. Therefore, Financial Performance is the key tool to measure the overall activities of a company. There are many techniques available to evaluate the performance of financial activities in an industrial set up. Generally, financial performance of a company is evaluated through its financial statements that are published annually. Financial performance indicates as to what extent does a company utilizes its assets. Financial Performance Evaluation gives a thorough account of marketing practices, human resource management, operations and trading practices of a company, which can be seen by going through its financial statements for a given period of time. Financial Statements give a clear picture about the working and progress of a company. Balance Sheet, Profit & Loss Account and Cash Flow Statement are the chief financial statements of the company. These financial statements are considered in acquiring information for evaluation of financial performance.

1.0.3 Appraisal of Financial Performance

Financial Appraisal is a scientific evaluation of the financial strength and the profitability of any business concern. It is a process of scientifically making power, critical and comparative evaluation of the profitability and financial health of a business concern, through the application of the techniques of financial statement analysis. It is a study of relationship among the various inters dependent financial

variables, as disclosed by a set of statements and scrutiny of these factors as shown in a series of statements. The Balance Sheet and the Profit & Loss Account are the two main financial statements of any business enterprise and they reveal the financial position, profitability and utilization of retained earnings. Nevertheless, financial analysis is not an end in itself, it is only a medium of communication and is related to the analysis and interpretation of various financial statements of a business. The process of financial analysis is characteristically devoted to evaluate the past, present and projected performance of a business firm for decision making strategies. The ability of an organization to examine its financial position is important for improving its competitive position in the marketplace (Bhunia, 2010).

The financial statement analysis examines the current and future financial, capital and income situation of a company. Amongst other sources, the analysis is based on information from the annual balance sheet of a company which considers historical data, present data and other available information. The financial statement analysis enables the depiction and interpretation of financial situations and developments (Hofmann & Lampe, 2013).

The analysis and interpretation of financial statements is an attempt to determine the significance and meaning of data given in statements so that the forecast may be made about future prospects of earnings, ability to pay interest and debt maturities and profitability. It is a process to evaluate the relationship between component parts of financial statements to obtain a better understanding about the position and performance of a firm (Metcalf & Titard, 1976). Financial analysis is the examination and evaluation of a firm's financial positions and operations which involves comparison and interpretation of accounting data (Kulkarni, 1994). It is a scientific tool which has assumed an increasingly important role in terms of appraising the real worth of an enterprise, its performance during the period of time and its pitfalls. It also helps in drawing out the complications of what is contained in financial statements. Financial analysis is defined as the process of discovering economic facts about an enterprise or a project on the basis of an analysis of the available financial data (Desai, 1999). Financial statements are prepared for the purpose of presenting a periodical review or report by the management and deal with the status of investment in the business and the result achieved during the period under review. They reflect a combination of recorded facts, accounting conventions

and personal judgment and conventions applied which affect them materially. The soundness of the judgment necessarily depends on the competence and integrity of those who makes the financial statements and on their adherence to generally accepted accounting principles and conventions. The basic purpose of financial statements is to transmit reliable and useful information to interested groups, both external and internal (Reynolds & Madhavan, 1968). There are numbers of tools and techniques available for the analysis and interpretation of financial statements of any business concern. Comparative statement analysis, Common size statement analysis, Ratio analysis, Du-Pont model, Altman Z score etc are the main techniques used for the appraisal of a business enterprise. Accounting ratios are used for the measurement of liquidity, solvency, and management efficiency of the company under study. Altman Z score is used to check the financial health and for the prediction of financial distress for upcoming years of the CCI.

1.2 SCOPE OF THE STUDY

The present study is based on the analysis of the published annual reports of CCI Ltd for a period of ten years from 2005-06 to 2014-15. All the results and findings of the study are confined to this period only. The main aim of the present study is to evaluate the financial performance of CCI Ltd. The Financial performance of the corporation has been analyzed in detail to provide comprehensive information about the efficiency of the business operations and financial performance of the company.

The financial performance of CCI Ltd. has been evaluated with the help of different accounting tools and techniques. Present study employed accounting ratios analysis, DuPont analysis and Z score technique to analyze Liquidity, solvency and profitability position of the company under study. In order to assess the overall financial performance of the company comparative and common size financial statements analysis has also been taken into consideration. The present research is aimed to provide detailed information relating to the financial performance of the company to its various stakeholders. As the only public sector corporation of Cement Industry, the CCI plays a significant role in Indian economy and the financial performance of this corporation will highlight the efficiency of the business operations and the overall performance of the company, which might prove helpful for the stakeholders looking forward to enter into a relationship with the company.

1.3 OBJECTIVES OF THE STUDY

The main objective of the present study is to evaluate the financial performance of CCI Ltd. during the period of study. The main objective of the study has been supported by the following specific objectives.

1. To analyze the financial performance of CCI Ltd. in terms of Liquidity, Solvency, Efficiency and Profitability over the period of study.
2. To evaluate financial performance of CCI Ltd. with the help of comparative and common size statements during the period of study.
3. To examine the financial health of CCI Ltd. with the help of Altman Z score model.
4. To investigate the financial performance of CCI Ltd. using Du-Pont analysis during study period.
5. To assess financial strength of the CCI with the help of comparison of Company's ratios with industry ratios.
6. To summarise the main findings of the study and to offer suggestions, if any, for improving the performance of selected company.

1.4 HYPOTHESES OF THE STUDY

The hypotheses of the present research are as follows:

Hypotheses of the study (Regression Analyses)

H01: There is no significant impact of Liquidity Ratios on Profitability of CCI Ltd.

$H0_{1a}$: There is no significant impact of Current Ratio on Return on Capital Employed of CCI Ltd.

$H0_{1b}$: There is no significant impact of Liquid Ratio on Return on Capital Employed of CCI Ltd.

$H0_{1c}$: There is no significant impact of Cash Position Ratio on Return on Capital Employed of CCI Ltd.

$H0_2$: There is no significant impact of Solvency Ratios on Return of Capital Employed of CCI Ltd.

$H0_{2a}$: There is no significant impact of Debt Equity Ratio on Return on Capital Employed of CCI Ltd.

$H0_{2b}$: There is no significant impact of Interest Coverage Ratio on Return on Capital Employed of CCI Ltd.

$H0_{2c}$: There is no significant impact of Propriety Ratio on Return on Capital Employed of CCI Ltd.

$H0_3$: There is no significant impact of Turnover Ratios on Return of Capital Employed of CCI Ltd.

$H0_{3a}$: There is no significant impact of Stock Turnover Ratio on Return on Capital Employed of CCI Ltd.

$H0_{3b}$: There is no significant impact of Total Asset Turnover Ratio on Return on Capital Employed of CCI Ltd.

$H0_{3c}$: There is no significant impact of WCTR Return on Capital Employed of CCI Ltd.

$H0_4$: There is no significant impact of Sales on Net Profit of CCI Ltd.

Hypotheses of the study (Paired t-test)

$H0_5$: There is no significant impact of Financial Restructuring on Financial Performance of the CCI Ltd.

$H0_{5a}$: There is no significant impact of Financial Restructuring on Current ratio of the CCI Ltd.

$H0_{5b}$: There is no significant impact of Financial Restructuring on Gross Profit Ratio of the CCI Ltd.

$H0_{5c}$: There is no significant impact of Financial Restructuring on Return on Capital Employed of CCI Ltd.

$H0_{5d}$: There is no significant impact of Financial Restructuring on Debt Equity ratio of CCI Ltd.

$H0_{5e}$: There is no significant impact of Financial Restructuring on Total assets turnover ratio of CCI Ltd.

Hypotheses of the study (One sample t-test)

$H0_6$: There is no significant difference between financial performance of Indian Cement Industry and Cement Corporation of India Ltd.

H_{6a}: There is no significant difference between average Current Ratio of Indian Cement Industry and Cement Corporation of India Limited.

$H0_{6b}$: There is no significant difference between average Return on Capital Employed of Indian Cement Industry and Cement Corporation of India Limited.

$H0_{6c}$: There is no significant difference between Return on Net worth of Indian Cement Industry and Cement Corporation of India Limited.

$H0_{6d}$: There is no significant difference between Debt Equity Ratio of Indian Cement Industry and Cement Corporation of India Limited.

$H0_{6e}$: There is no significant difference between Sales Growth of Indian Cement Industry and Cement Corporation of India Limited.

$H0_{6f}$: There is no significant difference between Total Asset Turnover Ratio of Indian Cement Industry and Cement Corporation of India Limited.

$H0_{6g}$: There is no significant difference between Working Capital Turnover Ratio of Indian Cement Industry and Cement Corporation of India Limited.

1.5 RESEARCH METHODOLOGY OF THE STUDY

The present research is primarily based on secondary data extracted from the financial statements i.e. Profit & Loss Accounts and Balance Sheets associated with schedules and annexures available in the published annual reports of CCI Ltd. For the purpose of the study, journals, conference proceedings, Government publications, websites and other relevant documents related to CCI Ltd have also been perused to supplement the data. The collected information and data has been systematically arranged, synthesized, tabulated and analyzed. In order to arrive at conclusions, different financial and statistical tools have been applied. Graphical presentation of calculated data is also being given to provide the reader a better understanding about the study.

1.5.1 Sample of the Study

The present study is devoted to one of the biggest Central Public Sector Enterprise of Cement Industry in India with special reference to Cement Corporation of India Ltd.

1.5.2 Nature and Sources of Data

The data used for the analysis and interpretation is purely secondary in nature. The secondary data used for the study has been taken from the published annual reports of Cement Corporation of India Ltd. from 2005-06 to 2014-15.Annual reports are taken from the head office of Cement Corporation of India Ltd in New Delhi. The Official website of the company has also been used for collecting useful information. Financial data of cement industry has been extracted from PROWESS database provided by the Centre for Monitoring Indian Economy (CMIE) and from ACE EQYITY database. These databases are the most comprehensive source containing financial information of listed and unlisted public and private companies of India. A number of Journals, Research Paper and News Papers and other relevant Government publications as well as internet have also been consulted for the data collection.

1.5.3 Period of the Research

The time period of ten years from 2005-06 to 2014-15 is considered to draw meaningful inferences. Data of ten years is sufficient to have an idea about the financial performance of CCI Ltd. To find the impact of financial restructuring ten years data before financial restructuring from 1997-98 to 2005-06 and ten years data after financial restructuring from 2006-07 to 2014-15, have been taken for analysis.

1.5.4 Variables used in the study

The variables incorporated in the present study are financial ratios of CCI Ltd under various categories i.e. Liquidity, Solvency, Efficiency and Profitability. Financial ratios have been used in the present study to analyze the financial performance of CCI Ltd. Financial ratio analysis is an important and powerful technique of financial performance evaluation. The concept of financial performance analysis along with its various techniques has been discussed in detail in the fifth chapter of the thesis. In the present study, the selection of variables was based on their popularity in literature, performance of such ratios in earlier studies and their relevance for the present study.

1.5.5 Tools/Techniques Used in the Study

Accounting & Financial Tools

- Common Size Statements Analysis
- Comparative Statements Analysis
- Trend Analysis
- Ratio Analysis

- DuPont Analysis
- Altman Z Score

Statistical Tools

- Descriptive Statistics
- Regression Analysis
- One sample t test
- Paired t test

Various accounting and statistical techniques have been used in the present study to analyze financial performance of CCI Ltd. Accounting techniques used to analyze financial performance of the company under study are comparative statements analysis, common size statements analysis, Ratio analysis, Du-pont analysis and Altman's Z score model. Liquidity, solvency, profitability and efficiency position of CCI have been analyzed through the aforementioned techniques. Descriptive statistics of the variables was used to summarize the data in a meaningful way. Regression analysis was employed to evaluate the impact of liquidity, solvency and management efficiency on profitability of CCI Ltd during the study period. In order to compare financial health of CCI Ltd, one sample t test was used to compare financial ratios of CCI Ltd with their industry average ratios while Paired t test was used to evaluate the impact of financial restructuring on financial performance of CCI Ltd. Financial ratios of CCI Ltd. were calculated and their graphical presentation was done with the help of MS-Excel. The statistical tests were applied by using SPSS 19.0. Various statistical tools used in the present study have been discussed as follows.

Statistical Tools

The role of statistical tools is important in analyzing and interpreting the data and drawing inferences there from. Every analysis does involve the use of various statistical techniques. The tools of statistics were implemented in present research by the means of software's viz. MS-Excel and Statistical Package for the Social Sciences (SPSS 21) along with their respective graphical presentation. Some of the important statistical techniques that have been applied in the research for financial analysis are as follows:

- **Descriptive Statistics**

Descriptive statistics are used to describe the basic features of the data in a study. They provide simple summaries about the sample and measures. Together with simple graphics analysis, they form the basis of virtually every quantitative analysis of data. Descriptive statistics is the term given to the analysis of data that helps to describe, to show or to summarize data in a meaningful way such that, for example, patterns might emerge from the data. Descriptive statistics are very important because if the data is simply presented, it would be hard to visualize what the data was showing, especially if there was a lot of it. Descriptive statistics, therefore, enables to present the data in a more meaningful way, which allows simpler interpretation of the data. Diagrams and graphs are visual aids which give a bird's eye view of a given set of numerical data. They present the data in simple readily comprehensible and intelligible form. Graphical presentation of statistical data gives a pictorial effect instead of just a mass of figures. They depict more information than the data shown in the table which throws light on the existing trend and changes in the trend of the data (Chandarana, 2008). The descriptive statistics include numbers (N), mean, Standard Deviation (σ) and variance.

- **Mean**

It is most common measure of central tendency and obtained by dividing the total of the values of various given items in a series by the total number of items (n).Its chief use consists in summarizing the essential features of a serious and in enabling data to be compared. It is amenable to algebraic treatment and is used in further statistical calculations. It is a relatively stable measure of central tendency. But it suffers from some limitations viz., it is unduly affected by extreme items, it may not coincide with the actual value of an item in a series. However, mean is better than other averages, especially in economic and social studies, where direct quantitative measurements are possible (Kothari, 2004).

$$Mean(X) = \frac{X1 + X2 + \ldots + Xn}{n}$$

- **Standard deviation**

Standard deviation is mostly used measure of dispersion of a series and is commonly denoted by the symbol of sigma. It is defined as the square root of the average of

squares of deviations, when such deviations for the values of individual items in a series are obtained from the arithmetic average (Kothari, 2004).

- **Regression Analysis**

It is method to discover the relantionship between one or more response variables(also called dependent variables, explained variables, predicicted variables or regressands, usually denoted by y) and the predictors also called independent variables, explantory variables, control variables, or regressors, usually denoted by x1,x2,……xp (Yan, 2009). In other words, regression is the determination of the statistical relationship between two or more varaibales. In simple regression, we have only two variables,one variable defines as independent variable is the cause of the behaviour of another one which defined as dependent variablele (Kothari, 2004).There are three types of regression.

- Simple linear regression
- Multiple linear regression
- Non linear regression

In present study the simple linear regression have been used for the data analyis. Simple linear regression has been discussed below:

- **Simple Linear Regression**

The simple linear regression is the first type of regression analysis to be studied rigorously and to be used extensively in practical applications. The simple linear regression is used for modeling the linear relationship between two variables. One of them is dependent variable (y) and another is the independent variable (x) (Yan & Su, 2009).In statistics, **simple linear regression** is the least squares estimator of a linear regression model with a single explanatory variable. In other words, simple linear regression fits a straight line through the set of *n* points in such a way that makes the sum of squared residuals of the model (that is, vertical distances between the points of the data set and the fitted line) as small as possible("Simple Linear Regression",nd).

- **Correlation**

Correlation is a statistical technique that can show whether and how strongly, pairs of variables are related. Correlation analysis attempts to determine the degree of relationship between variables. It is used in deriving precisely the degree and direction of relationship between variables like price and demand, rainfalls and crops yeild etc. It is used in developing the concept of regression and ratio of variables

which help in estimating the values of one variable for a given value of another variable (Patri & Patri, 2011).

- **T test**

The *t* test is one type of inferential statistics which is used to determine whether there is a significant difference between the means of two groups are exist or not. T test is based on t distribution and is considered an appropiate test for judging the singnificance of a sample mean or for judging the singnificance between the means of two samples in case of small sample(s) when population varaince is unknown (in which case we use variance of the sample as an estimate of the population varaince). In case of two samples, we use paired t test for judging the singnificance of the mean of difference between the two related samples. It can also be used for judging the singnificance of the coefficients of simple and partial correlations. T test statistic, t, is calculated from the sample data and then compared with its probable value based on t–distribution to be read from the table that gives probable values of t for different levels of singnificance for different degrees of freedom at a specified level of significance for concerning degrees of freedom for accepting or rejection the null hypothesis (Kothari, 2004).In the present study, one sample t test and paired t test has been used.

- **One Sample T Test**

One sample t-test is a statistical procedure used to examine the mean difference between the sample and the known value of the population mean. In one sample t-test, population mean is known. A random sample from the population is drawn and then sample mean is compared with the population mean and make a statistical decision as to whether or not the sample mean is different from the population mean ("Statistics solutions",n.d).

$$t = \frac{\bar{X} - \mu}{S\sqrt{n}}$$

- **Paired T-Test**

A paired t-test is used to compare two population means of two samples, in which observations in one sample can be paired with observations in the other sample. For examples, before-and-after observations on the same subjects like students' diagnostic test results before and after a particular module or course and a comparison of two different methods of measurement or two different treatments where the

measurements/treatments are applied to the same subjects like blood pressure measurements using a stethoscope and a dynamap (Shier. 2004).

$$t = \frac{\bar{d}}{\sqrt{S^2/n}}$$

1.6 SIGNIFICANCE OF THE STUDY

Today, business firms exist in a rapidly changing business environment and therefore, it is necessary to analysis financial performance of a business firm from time to time in order to assess its operating and earning capacity. From its inception in the year 1965, financial performance of CCI Ltd has not been satisfactory. Therefore, the present study has its significance to analyze financial performance of CCI Ltd to find various obstacles in the way of its sound performance. Financial performance analysis of a business firm is important for its various stakeholders like Shareholders, employees, suppliers, government etc. The present study may prove important to various stakeholders of CCI Ltd. The following points will clarify significance of the study more elaborately:

- The financial performance evaluation of CCI Ltd will provide an outcome about the workings and performance of the company which will be helpful for the management of the company in order to enhance its performance and business activities.
- Findings of the present study may be helpful for the Government in making policies regarding CPSEs of the country.
- It is also necessary to find out some important factors which may affect internal decision making of the company. Hence, present study is deemed to be useful for this purpose.
- An analysis has been made on various functional aspects like liquidity, solvency, profitability and assets utilization. Thus, the relevant information can be used by stake holders in decision making.
- The important aspect and contribution of the study is to identify the reasons of poor financial performance of the company by the application of financial statement analysis.

1.7 LIMITATIONS OF THE STUDY

Limitations are always there in any study. The present research also has some limitations which have been mentioned as follows:

- The study is purely based on secondary data extracted from the published annual reports of the company, its website and other related published sources. Thus, findings of the study are subject to the accuracy of such data that has been collected from these sources.
- The present study includes only a period of ten years i.e., from 2005-06 to 2014-15. Hence, findings are Ltd to this period only.
- The present study is based on ratio analysis and it has its own limitation that applies to this study also.
- Financial statements are normally made on the theory of historical costs and therefore they do not reflect values in terms of current costs. Therefore, analysis of such financial statements or accounting variables would not depict the effects of price level changes over a period of time.
- Financial analysis does not reflect those facts which cannot be expressed in terms of money. For example, efficiency and reputation of workers, and prestige of the management.
- The researcher is an external evaluator of CCI Ltd and thus the inside view of CCI is beyond the purview of researcher.

1.8 CHAPTERISATION SCHEME OF THE STUDY

The present thesis has been organized into seven chapters. A short overview of each chapter is presented as follows:

The **first Chapter** deals with the Introduction of the study which provides the general information about the subject under research, it also includes statement of the problem, research Design, objectives of the study, scope of the study, significance of the study, need for the study and Research methodology, covering nature & sources of information and tools used for analyzes & interpretation. It also includes hypotheses of the study, limitations of the study and chapterization scheme.

The **second chapter** gives an extensive review of literature. It deals with reviews of past studies on financial performance analysis of firms in Cement industry as well as

in other industries working in foreign countries as well as in India. The review gives an insight into the significance of financial analysis of business firms.

The **third chapter** gives an Overview of cement Industry throwing light on growth, development, production, consumption, import and export scenario, policies of the government, demand and supply scenario and various issues and challenges related to Indian cement industry.

The **fourth Chapter** Deals with profile of Cement Corporation of India Ltd.

The **fifth chapter** entitled 'Financial Performance analysis- A Conceptual framework' deals with the conceptual framework used in the present study. It also discusses the concept of financial analysis, types of financial analysis, procedure of financial statement analysis, importance of financial analysis, limitations of financial analysis, purpose of financial statement. Various techniques of financial analysis like comparative statement, trend analysis, common size statement, fund flow statement, cash flow statement ratios analysis are discussed at length.

The **sixth chapter** deals with Data analysis and Interpretation. In this chapter detailed analysis has been made regarding the financial performance of CCI Ltd. Various accounting ratios were calculated and analyzed to judge the performance of CCI Ltd. during study period. Also, impact of financial restructuring by BIFR on CCI Ltd. financial performance were calculated and analyzed. Various hypotheses framed were also tested in this chapter.

The **seventh Chapter** entitled 'Summary of Findings, Suggestions and Conclusion', contains the summary of the findings. In this chapter suggestions have been offered in the light of the findings for improving the performance of CCI Ltd. In addition the researcher has given his own ideas by way of a brief conclusion.

The chapter covers statement of problem, research gap, scope of the study, objectives and hypotheses. It also elucidates research methodology used in the study that provides an adequate and resonant foundation to research in terms of sample scheme, sources of data and various statistical tools and techniques. Finally, the chapter culminates with explaining the limitations, expected contribution and chapter scheme of the study.

REFERENCES

ASSOCHAM (n.d.). *Public sector enterprises transformation, competitiveness & sustainability*. Retrieved from http://www.kpmg.com/IN/en/Issues And Insights/Thought Leadership/ Public-Sector-Enterprises.pdf)

Bagchi, A. K. (2000). Private investment in India, 1900-1939. *Taylor & Francis, 5*(2),353-355.Retrieved from https://books.google.co.in/books?id= UZZcTYzHBtgC

Bhunia, A. (2010). Financial performance of Indian Pharmaceutical Industry: A case study. *Asian Journal of Management Research,7*(3), 427-451.

Burange, L. G. & Yamini, S. (2009). Performance of the Indian Cement Industry: The Competitive Landscape. *Artha Vijnana, 51*(3), 7-8. Retrieved from http://www.mu.ac.in /arts/social_science/eco/pdfs/depart/dwp1.pdf

CCI. (n.d.). *Profile of Cement Corporation of India*.Retrieved fromhttp://www. Cement corporation.co.in/page.php?id=23

Das, K. B. (1987). *Cement Industry of India*. New Delhi, India: Ashish Publishing, 30-35 Retrieved from https://books House.google.co.in/books? id=zEwuXh Ka U 6oC

Department of heavy Industry. (23rd Feb, 2011). *Standing Committee Report,The revival and restructuring of Cement Corporation of India Ltd.* Raj Sabah, Govt of India.

Department of Public Enterprises. (2014). *Annual Report 2013-14*.Retrieved from: http://dpe.nic.in/sites/upload_files/dpe/files/Annual_Report_Final_2013-14.pdf

Desai, V. (1999). *The Indian financial system*. Mumbai, India: Himalaya Publishing House Pvt. Ltd. 116, 136, 169.

Front, C. M., Christopher, J.M. &Fox, M.C. (2005). *The Lehigh Valley Cement Industry*. Great Britain: Arcadia Publishing. Retrieved from https:// boo ks.google.co.in/ books? id= Nn X33SJCy1QC

Ghouse, S. M. D., Prasad R.B., & Azeem, A. B. (n.d.).*An Overview of Central Public Sector Enterprises in India.* Retrieved from: http://www. International seminar.org/XIV_AIS/TS%205%20A/2.% 20S.%20 Md.%20Ghouse.pdf

Government of India. (2011). *Ninety Fifth Report On Performance of Cement Industry*. Parliament of India Rajya Sabha, Department Related Parliamentary Standing Committee on Commerce.

Hofmann, E., & Lampe, K. (2013). Financial statement analysis of logistics service providers: ways of enhancing performance. *International Journal of Physical Distribution & Logistics Management, 43*(4).doi:10.1108/IJPDLM-08-2012-0229

I.C.L, (2009). *India Business Yearbook.* New Delhi: Vikas Publishing House Pvt Ltd. Retrieved from https://books.google.co.in/books?id= JKrQOA KQ X60C

Jain, P. K. (2014). *Public Sector Enterprises in India: The Impact of Disinvestment and Self Obligation on Financial Performance*. India: Springer. DOI 10.1007 /978-81-322-1762-6_2

Jain, P. K., Gupta, S. and Yadav, S. S. (2014). *Public Sector Enterprises in India: The Impact of Disinvestment and Self Obligation on Financial Performance*. New Delhi:Springer.Retrieved from https://books.google.co.in/ books ?id = 7_O_AwAAQBAJ

Kothari, C. R. (2004). *Research methodology: methods and techniques*, 2nd Ed., New Delhi: New Age International

Kulkarni, P. V. (1994). *Financial management: A conceptual approach.* Bombay, India: Himalaya Publishing House Pvt. Ltd.

Kumar, S. & Bansal N. C. (2013). Marketing Mix Strategies and Indian Cement Sector.*International Journal of Emerging Research in Management & Technology*, *8*(1).

Low, S. P. and Tan, O. B. (1993).*The Global Cement Industry.* Kent Ridge, Singapore: Singapore University Press. Retrieved from https://books.google.co.in/books?id=a8uOr3i77FQC

Mathur, B. L. (2001). *Towards economic development.* New Delhi: Discovery Publishing House Pvt Ltd. Retrieved from http://books.google.co. in/ books?id=uFLXG9VgqXIC&printsec=frontcover&source=gbs_ge_summary_r&cad=0#v=onepage&q&f= false

Metcalf, R. W. & Titard, P. L. (1976). *Principles of accounting.* Hinsdale Illinois, USA: The Dryden Press.

Ministry of Commerce and Industry. (2013). *The working group on cement industry of India for 12 five year plan 2012-2017*.Government of India.

Ministry of Mines. (2011). *Indian Minerals Yearbook*, Cement (Advance Release) (50^{th}Ed.) Government of India.

Patri, D., & Patri, D.N. (2011). *Statistical method*. New Delhi: Kalyani Publishers.

Reynolds, S. & Madhavan. (1968). *Basic Accounting for Managerial and Financial Control*. Holt: Rhine & Winston.

Schumacher, K. & Sathaye, J. (1999). *India's cement industry: Productivity, energy efficiency and carbon emissions*. Lawrence Berkeley National Laboratory. Retrieved from http://india.lbl.gov/sites/default/files/41842.pdf

Shier, R. (2004). *Statistics*. Retrieved from http://www.statstutor.ac.uk/resources/uploaded/paired-t-test.pdf

Singh, P. K. (2003). Financial appraisal of IDBI Bank Ltd through financial indicators. *The Management Accountant*.

Statistics solutions, (n.d). *One sample t-test*. Retrieved from http://www.statisticssolutions.com/manova-analysis-one-sample-t-test/ on 16-04-2016

Chapter – 2

Review of Literature

2.0 INTRODUCTION

The introductory background of the research along with scope, objectives, hypotheses, methodology and its significance has been discussed in the first chapter. The present chapter provides an extensive review of available literature in chronological order which helps to find out the research gap, if any, and to suggest the required research needed in the field of performance of Cement Corporation of India Limited.

The Cement Industry is a core sector for a nation. Its importance becomes vital especially in present running industrial era where most of the development depends on infrastructural facilities. It plays a significant role in economic and social development of the country. The researcher would like to conduct a study on the financial aspects of Cement Industry with special reference to Cement Corporation of India Limited. The main purpose of this study is to look into the operational activities, business practices and financial efficiency of this corporation through its financial statements. In recent times, a number of financial problems faced by the corporations require analytical studies related to financial performance. The present effort is a research agenda on 'An Appraisal of Financial Performance of Cement Corporation of India Limited, Since 2005'. Analytical study of financial performance turns out to be very significant and important for the financial managers to analyze various financial aspects. The corporation uses various indicators for measuring its financial performance. It indicates the importance of financial health status of the corporation.

There are a number of studies that have been conducted in the field of Cement Industry and Financial Performance Evaluation. It is an emerging issue in current national economic scenario, where Cement Industry and their performance play significant role in economic development. Cement Companies which are engaged in trade of cement and other allied products have been playing significant role in accelerating the economy. But there are various issues and challenges in their trade practices and other related operational activities. Financial performance of an enterprise gives the overall view regarding its business operations, earning capacity and its contribution for the development of the nation. There are various researches

that have been carried out on different aspects of Indian Cement Industry and Financial Performance. Available literature is being reviewed below in four parts separately viz. 2.2 Specific Review of literature, which discusses past studies that have been conducted on financial appraisal of Indian Cement Industry and CCI Ltd. and 2.3 General Review of literature, which discusses the past studies based on financial appraisal of firms in other industries.

2.1 STATEMENT OF PROBLEM

Most of the public sector units are overwhelmed by inefficiency caused by heavy investment on social overheads, poor labour relations, inefficient management, underutilization of capacity, etc. This hinders proper functioning of the steel plants especially with increasing competition and limited resources in the present world of liberalized economy. The survival, growth and organizational success greatly depend on the efficient management of its finance. The cement industry is very important sector for a country. Its importance becomes vital especially in present running industrial era. It plays a significant role in economic and social development of the country. The researcher would like to conduct a study on the financial aspects of Cement Industry .The researcher would conduct a study on financial aspects of Cement manufacturing and trading sector of the economy with special reference to Cement Corporation of India Limited. The main purpose of this study is to look into the operational activities, business practices and financial efficiency of this corporation through its financial statements. In recent times, a number of financial problems faced by the corporations require analytical studies related to financial performance. The present effort is a research agenda on 'An Appraisal of Financial Performance of Cement Corporation of India Limited, Since 2005'. Analytical study of financial performance turns out to be very significant and important for the financial managers to analyze various financial aspects. The corporation uses various indicators for measuring its financial performance. It indicates the importance of financial health status of the corporation. Analysis of financial statement can highlight the strength and weaknesses of the company. This information can be used by management to improve performances and to predict future results.

2.2 SPECIFIC REVIEW OF LITERATURE

Rajeswari (2000) studied the liquidity position of Tamil Nadu Cement Corporation Ltd. from1990 to 2000. The study concluded that the liquidity position of TANCEM was not up to the mark. Whereas the short term solvency ratios indicated that there was too much of liquidity in the first two years of the study. A very high degree of liquidity is unfavourable as idle assets earn nothing and affects the profitability. The study concluded that the liquidity management of TANCEM was poor and was not upto the mark.

Selvam et al. (2004) measured the financial position of India Cements Ltd. by using Z score analysis for a period of four years from 1998 to 2001. The study exhibited that the financial performance of India Cements was never in excessively healthy zone during the study period except in 2002. They also suggested that the problem of below trading should be attended and the company must set reachable sales target. Further, the capital structure should be reformed in such a manner that standard debt-equity ratio is achieved to avoid any future disappointment.

Muslumov (2005) studied the financial and operating performance of privatized companies of Turkish cement industry. The study analysed the post-privatization performance of privatized companies. The findings indicated that when the performance criteria for both the state and private enterprises were considered, privatization in the cement industry resulted in significant performance decline. Total value added and the return on investment were also declined significantly after the privatization. Further, the decline in asset productivity was not caused due to an increase in capital investment as post privatization, capital investment did not changed significantly. Contraction in total employment and increase in financial leverage after privatization were among the key research findings.

Chakraborty (2008) in a study on "Working Capital and Profitability: An Empirical Analysis of Their Relationship with Reference to Selected Companies in the Indian Pharmaceutical Industry" evaluated the relationship between working capital and profitability of Indian pharmaceutical companies. Researcher pointed out two distinct schools of thought on this issue. According to one school of thought, working capital is not a factor of improving profitability and established a negative relationship between them while according to the other school of thought, investment in working capital plays a vital role to improve corporate profitability and states that unless there

is a minimum level of investment of working capital, output and sales cannot be maintained. In fact, the inadequacy of working capital would keep fixed asset inoperative.

Srinivasanet al. (2011) attempted an empirical study on Dimension of Financial Performance of Cement Units in South India by applying Z score analysis from 2005 to 2009. The study was based on the secondary data of fourteen south Indian cement companies. The study aimed to examine the corporate financial performance, accounting profitability measures and shareholders' value based measures. For the analysis of accounting profitability measures, Return on Investment (ROI), Return on Equity (ROE), Earning per Share (EPS), Return on Capital Employed (ROCE) and Dividend per Share (DPS) were calculated. For the analysis of shareholders' value, the Economic Value Added (EVA) and Market Value Added (MVA) tools were employed. 'Fiscal-Fitness' of the company has been checked by the three modes of Z score analysis i.e. Altman Model, spring ate Model and Fulmer Model. Z-score analysis concluded that two companies, Rain Commodities Ltd. and Zuari Cement Ltd. were rated as failure out of fourteen south Indian companies because of the excess debt and excess working capital that deteriorate the financial health.

De et al. (2011) conducted an Empirical Study on the Indian Cement Industry. Factor Analysis was applied over the audited financial data of selected cement companies of India for a period of the ten years i.e. from 1999-2000 to 2008-2009. There were 44 variables (financial ratios) grouped in 7 categories. Multiple regression analysis employed by taking the factor scores as the dependent variable and constituent variables as independent variables. The study shows that the profitability and return of investment was good while the liquidity, dividend and working capital of the industry was not satisfactory. The author also emphasized on eight financial ratios for analyzing the financial position of the cement industry of India

Mukhopadhyaya et al. (2012) evaluated the effect of deregulation on the performance and structure of Indian cement industry from 1989 to 2006. The study indicated that there was shriller movement in the measure of inter sequential mobility for the firms in the top most two quartiles which made a significant gains in market share and the companies which were below the second quartile, lost the market share during the study period. The study also revealed that there was a structural break in the market share pattern of many companies and a substantial change in the market

shares and ranks of some other companies. The distribution of market shares took place in favour of the larger companies. Concentration of four firms was more than fifty percent and two dominant groups accounted for more than forty percent market share.

VenkataRamana et al. (2012) analysed the financial performance and predict the risk of bankruptcy for selected cement companies from 2001 to 2010 with the help of Z score model and financial ratios. The study revealed that liquidity, working capital turnover, efficiency and solvency position of the selected cement companies were not adequate. Further, it was also found from the Z-Score analysis that financial performance of KCP Ltd and Kesoram Industries Ltd was poor and Dalmia Bharat Ltd was at the verge of bankruptcy.

Samuel (2012) conducted a study on Financial Performance of India Cements Limited for the period of ten years i.e. from 1998-99 to 2007-08. The study was mainly based on secondary data collected from the annual reports of the company. The Comparative financial statements, Common size financial statements, Trend percentage and Ratio analysis were the tools and techniques used for analysing the financial performance. In his study, the financial performance of the company was analyzed on various fronts such as profitability, liquidity and turnover. In fact the effects of all business transactions were clearly visible in the value of various assets, liabilities and capital fund where changes were studied by comparing the opening and closing balance sheets of the enterprise. It was also found that the net profit ratio in the last three years was satisfactory and main reason for increasing the net profit. The high sales revealed in more return to shareholders fund. Finally, the study concluded that the overall performance of India Cements Ltd was good and the study helped the company to identify its inefficiency areas.

Shandhar and Janglani (2013) attempted a study on liquidity and profitability of selected Indian cement companies by applying regression modelling approach. The objective of the study was to analyse the working capital management in terms of profitability and liquidity and to find out their impact on the firm's financial aspects. The random sampling was used for the selection of sample on the basis of profitability of the companies listed on NSE. Secondary data was collected from the journals and internet for the period of six years from 2008 to 2012. The data was analysed by applying the regression and correlation analysis to find out the impact of liquidity on

profitability and the relationship between liquidity with profitability, respectively. It was revealed that the liquidity ratios measure by current ratio (CR), liquid ratio (LR) and Cash Turnover Ratio, CATAR, CLTAR had a modest relationship with profitability on capital employed. The Current ratio, Liquidity ratio and Cash Turnover Ratio of selected companies were negatively associated with Return on Asset and Return on investment. Further, it was also found that the relation of Liquidity ratios with profitability ratios was according to the theoretical foundation of liquidity profitability trade off theory.

Panigrahi (2013) carried out a comparative study on Liquidity Management of Indian Cement Companies for the period of ten years from 2001 to 2010. The samples selected for the study was comprises of top five BSE listed cement companies of Indian Cement Industry namely, Abuja Cements, ACC Cements, India Cements, Madras Cements and Shree Cements. Secondary data was collected from the published annual reports of the selected companies. The objective was to assess and to compare the liquidity management of five leading Cement companies and to measure the management of working capital and its adequacy. For analyses, various tools and techniques such as mean, standard deviation, coefficient of variation, ratio analysis, and Metal's ultimate rank test was applied and it was found that the liquidity position of small companies were satisfactory as compared to bigger ones. The growth rate of current ratio, quick ratio and working capital to current assets of all the companies were found negative indicating an unstable liquidity position. Furthermore, low or negative working capital indicated the aggressive working capital management policy of the firms which in turn implies minimum investment in current assets to gain higher rate of return. The liquidity position of Shree Cements was sound as compared to other companies.

Panigrahi (2013) investigated the Relationship between Inventory Management and profitability of Indian Cement companies. A sample of five Indian cement companies listed in BSE was decisively selected for the study. Secondary data was collected from the annual reports of the selected companies over a period of ten years from 2001-2010. Relationship of Gross operating profit, used to measure the profitability, was found with measures of inventory management. Regression analysis was applied to determine the impact of inventory conversion period on gross operating profit while taking into account current ratio, size of the firm, financial debt ratio as control

variables. It was found that there exist a negative linear relationship between inventory conversion period and profitability i.e. when the Inventory Conversion Period days increase the profitability of firm decreases and vice versa. It was also found that, the firms' profitability, measured by GOP, has a negative relationship with financial debt ratio which implied that the profitability increases with decrease in financial debt ratio. Furthermore, the study found a positive relationship between the firm size and GOP indicating that the profitability increases with an increase in firm size while negative relationship was found between current ratio and GOP.

Kumar et.al (2013) examined the progress of Indian cement industry (ICI) since 1991, related to growth in installed capacity, exports, productions and value additions for a period of fifteen years (1991-92 to 2005-06).While Focusing on the past, present and the future performance of Indian Cement Industry (ICI) at the macro level and the Chettinadu Cement Corporation Limited (CCCL) at the micro level. All the six parameters of the Indian cement industry (ICI) taken into consideration showed good growth during study period. The policy of total decontrol of the Indian cement industry and liberalization of the Indian economy helped the industry to grow in terms of physical and financial variables. The results also revealed that the Indian Cement Industry (ICI) recorded momentous growth marking virtually a fivefold increase in its net worth during the period of study.

Kaur and Singh (2013) studied the Impact of Liberalization on Cost of Capital of Associated Cement Companies Limited to analyse the impact of Liberalization on cost of capital of ACC Limited for a period of thirty one years from 1979-80 to 2009-10.The period was divided into two parts i.e. pre liberalization period (1979-80 to 1989-90) and post liberalization period (1990-91 to 2009-10). The Overall cost of capital was used as dependent variable whereas size, leverage, non-debt tax shields, reserves and retained earnings to total assets, liquidity, growth, profitability, collaterals and age were used as independent variables. The findings revealed that there was a declining trend in cost of debt whereas an increasing trend was found in cost of equity capital and overall cost of capital during post-liberalization period. Result of multiple regression analysis revealed that leverage, non-debt tax shields (NDTS), growth and profitability were significant determinants of overall cost of capital. The regression coefficient of dummy variables appeared with negative signs in both the cases were significant at 5 percent level of significance with overall cost of

capital as dependent variable which was healthy sign as it indicates decline in overall cost of capital of the company during post-liberalization period as compared to pre-liberalization period.

Swaminathan, et al. (2013) examined the working capital management of selected cement companies of India from 2001-02 to 2010-11. Financial ratio, regression analysis and ANOVA were used for the analyses. Findings indicated a mix result of working capital management of selected cement companies Finally, the Researchers emphasized that the listed cement companies should improve their financial performance.

Franklin & Uma (2013) studied the impact of marginal costing and leverages for cement industries with the objective to analyse the financial performance of selected cement companies and to find out the performance of cement units in terms of marginal cost statement and leverages for a period of five years from 2007 - 08 to 2011 – 12. It was found that the Operating Leverages of the company has been in fluctuation trend. The higher operating profit showed an optimistic movement of the concern whereas the financial leverage and composite leverage of the company have been in a mixed trend. Profit of the concern showed a fluctuating trend but was at higher level for the year 2012.The Profit Volume Ratio of TANCEM was 11 per cent in 2010 and 62 per cent in 2011 which was considered good for the company. The Breakeven Point was found at the peak in 2011.However,sales increased the breakeven point which showed ups and downs whereas the Margin of Safety of the company showed a mixed trend. Thus, it was concluded that the company position was satisfactory during study period.

Ningsih & Djuaeriah (2013) examined the Capital Structure and Firm's Financial Leverage of Indonesian Publicly Listed Cement Industry. In this study relationship of seven independent variables i.e. ROA, ROE, QR, SER, EPS, BMR and TG was found with financial leverage, used as dependent variable. From the analysis it was found that ROE, SER, and BMR that were used as measures of capital structure, made a positive effect on financial leverage. It was also found that all the seven ratios, ROA, ROE, QR, TG, EPS, SER and BMR, had significantly affected financial leverage.

Another study was conducted by **Tiwari (2013)** to conduct a study on Working Capital Management Efficiency In Indian Cement Industry and to study the effectiveness of the working capital management of the Indian cement companies

from 2002-03 to 2009-2010. A sample of 20 large cement companies operating in India was selected. The secondary data was collected from the 'Capitaline' database for a period of 10 years from 2000 to 2010.The findings showed that the Indian Cement industry did not performed extraordinarily well during this period. Industry average for efficiency index was greater than one in 6 years out of 10 years study period. Though some of the sample firms had successfully improved efficiency during these years, the existence of a very high degree of inconsistency in this matter clearly pointed out the need for adopting sound working capital management policies by these firms. In the matter of achieving the target level (industry norm) of efficiency by the firms, Associated Cement and Dalmia, were the most successful firms followed by Deccan, Kanoria and Madras. It was suggested that the firms under study should have taken necessary steps in order to improve their efficiency. The study also suggested that another study may be helpful for identifying the forces that governed the chronic nature of inefficiencies of Indian cement companies in the matter of working capital management.

Ray, S. (2013) investigated the Capital Structure Determinants of Listed Cement Companies in India. The author examined the impact of nine determinants i.e. asset collateral, asset composition, age of firm, size of firm, business risk, growth rate, flexibility, profitability, non-tax shield as independent variables on capital structure (Debt-Equity ratio) as dependent variable with the help of two Stage Least Square method by running multiple regression analysis for a study period from 1991-92 to 2011-12. The analysis revealed that the asset composition, size and non-debt tax shields had statistically positive relationship with debt-equity ratio while the profitability and asset collateral had significant negative relations with leverage. Further, it was found that the other factors such as business risk, flexibility and growth opportunities had insignificantly impacted on capital structure.

Vaijayanthimala and Vijayakumar (2014) analyzed liquidity management and trade-off between risk and profitability in Indian cement industry during the study period. The analysis of correlation between liquidity and profitability showed positive correlation in Associated Cement Companies Limited, Chettinad Cement Corporation Limited, Dalmia Cement Limited, Madras Cements Limited and Shree Cement Limited. However, there was negative correlation between liquidity and profitability in the case of Birla Corporation Limited, Grasim Industries Limited and India

Cements Limited. Further, the analysis of correlation between risk and profitability depicted a positive correlation in all the selected companies. However, there was a negative correlation in the case of Associated Cement Companies Limited, Chettinad Cement Corporation Limited and Dalmia Cement Limited. The result of the study showed mixed trend with respect to liquidity, risk and profitability.

Mahmoudi (2014) focused on empirical vision into the relationship between leverage and firm profitability of 28 cement firms selected from the Tehran Stock Exchange during the time period of 3 years i.e. 2008 to 2011.Leverage was measured by Short term debt to equity (STD/E) and long term debt to equity (LTD/E) and Firm profitability was measured by calculating the return on equity (ROE) and return on assets (ROA). The regression model was used to test the hypotheses. With the help of the results, it was concluded that there exist significant and negative relationship between leverage and firm profitability. The result from the descriptive statistics also revealed that the cement companies were highly levered and the performance of listed cement companies measured by returns on equity (ROE) and return on assets (ROA) were 39%, 19% respectively. The performance of the listed cement companies in Tehran throughout the study period was found to be average.

2.3 GENERAL REVIEW OF LITERATURE

Capon, et al. (1990) conducted a study of meta-analysis to find the determinants of financial performance. The author analyzed320 published studies relating environmental, strategic and organizational factors with financial performance. Some factors have been studied widely and it was found that there was a relatively consistent positive impact of some factors (e.g. concentration and growth) on performance while other widely-studied factors (e.g., size) had lesser consistent effects.

Kantawala (2001) examined the financial performance of different groups of NBFCs from 1985-86 to 1994-95 in terms of profitability, leverage and liquidity. An attempt was made to find out the groups for which majority of the ratios were same. For the purpose of analysis, profitability ratios like gross profit to total income, PBT to total income, PAT to net worth, PAT to total assets and dividend to PAT were used. For leverage, ratios like Debt Equity and Loan to current assets etc. were used while liquidity ratio like current ratio was computed. The study examined whether these

ratios were differed significantly between different categories of NBFCs. One way Analysis of Variance (ANOVA) was employed to test the hypothesis. The study concluded that there was a significant difference in profitability, leverage and liquidity ratios of various categories of NBFCs.

Singh (2003) made an attempt to evaluate the financial performance of IDBI Bank Ltd. in his paper entitled 'Financial Appraisal of IDBI Bank Ltd.' for a period of five years from 1997 to 2001. The author evaluated the liquidity position and capital adequacy as well as effectiveness of various financial indicators which reflected the performance of Industrial Development Bank of India (IDBI). Statistical tools like t-test and correlation were applied to test the hypothesis. In order to judge the performance of IDBI bank capital adequacy ratio, Non-performing assets (NPA) and credit deposit ratio were used. The study concluded that IDBI bank was a progressive, technology driven, professionally managed entity, well geared to meet competition from existing as well as new banks effectively. The analysis and interpretation indicated that the financial position of the bank was quite satisfactory.

Eljelly (2004) examined the relation between profitability and liquidity of selected joint stock companies of Saudi Arabia by applying Correlation and regression analyses. While evaluating the liquidity of the companies, cash conversion cycle and current ratio were used as measures of liquidity. Significant negative relation was found between the firms' profitability and liquidity (measured by current ratio), whereas at the industry level, the relation was found more significant when liquidity was measured by cash conversion cycle. It was also found that the cash conversion cycle was a more important measure of liquidity than the current ratio that upsets profitability.

Falk (2005) analyzed sickness in Indian manufacturing industry. The theoretical model was tested to address the political economy of industrial sickness in India. The findings of the study revealed that the politicians' benefit has been responsible for sickness of the industry. Researcher also concluded that sickness law provides several ways to the firm/stake holders to take advantages of sickness of the firm to get rid of their financial liabilities.

Rakshit (2006) studied the EVA Based Performance Measurement of Dabur India Limited to examine whether Dabur India Limited (DIL) were able to generate value for its shareholders and to analyse the financial performance of the company by

applying the traditional performance indicator like ROI and the new corporate performance measure EVA. The financial data was secondary in nature and was collected from the published Annual Reports, BSE Sensex and DIL Share Price data for a period of 5 years from 1998-99 to 2002-03. To analyze the financial data of the DIL, various accounting ratios i.e. Net Profit Margin, Operating Profit Margin, Return on Investment (ROI), Return on Net worth (RONW), and Earning Per Share (EPS) were used. Findings showed that the EVA based performance measurement system gave the clear idea about the shareholders' value addition or value destruction. Further, it was also observed that the Company have successfully created value for its shareholders. Finally, it was suggested that EVA based performance measurement system was the basis on which the company can take appropriate decisions related to the choice of strategy, capital allocation, divesting business, goal setting and merger & acquisitions.

Bhunia (2007) examined the Liquidity Management of Public Sector Iron and Steel Enterprises in India covering a period of 12 years from 1991-92 to 2002-03to make an assessment on the efficiency of the management of short-term liquidity, to examine the adequacy of the working capital and to observe the liquidity position of selected public sector Iron and Steel enterprises in India. A sample of 2 companies i.e. Steel Authority of India Limited (SAIL) and Indian Iron and Steel Company Ltd. (IISCO), out of nine Central Public Sector Iron and Steel Enterprises operating in India, was selected for the study. With the help of standard deviation analysis, financial ratios were used to categorise the companies in terms of their effective or ineffective working capital management and liquidity. The researcher found that the actual values of working capital were lower than the estimated values of working capital for both the companies which indicated inadequate level of working capital. This inadequate position may be accredited to low raw materials inventory in the case of SAIL and low level of receivables in the case of IISCO. It was found that the liquidity position of both, SAIL and IISCO, was poor while there was inefficient inventory management in case of SAIL.

Huang et al. (2008) attempted to develop a predictive hybrid financial analysis model for business failure in which the financial ratios were one of the main inputs to develop the prediction model. The hybrid financial analysis model also included static and trend analysis models (i.e. financial structure, credit standing, operating standing,

profitability, and short-term credit standing) to construct and instruct a back-propagation neural network (BPN) model. The study focused on business failure prediction of Taiwan companies. Annual financial statement of each listed company was collected from Taiwan Economic Journal database (TEJ). Furthermore, the experiments employed four datasets of Taiwan enterprises. The researcher concluded that the proposed model using a back-propagation neural network makes a good performance of prediction accuracy and outperforms other models including decision trees, discriminate analysis and the back-propagation neural network.

Chakraborty (2008) in a study on "Working Capital and Profitability: An Empirical Analysis of Their Relationship with Reference to Selected Companies in the Indian Pharmaceutical Industry" evaluated the relationship between working capital and profitability of Indian pharmaceutical companies. Researcher pointed out two distinct schools of thought on this issue. According to one school of thought, working capital is not a factor of improving profitability and established a negative relationship between them while according to the other school of thought, investment in working capital plays a vital role to improve corporate profitability and states that unless there is a minimum level of investment of working capital, output and sales cannot be maintained. In fact, the inadequacy of working capital would keep fixed asset inoperative.

Zoysa et al. (2009) conducted an empirical study on Profitability of Listed Manufacturing Companies in Sri Lanka and Malaysia for a period of three years from 2006 to 2008. The objective of the research was to undertake the comparative analysis of the companies on the basis of two key indicators, namely Return on Assets (ROA) and Return on Equity (ROE). The study analyzed the financial data of 161 manufacturing companies consisting of 62 Sri Lankan companies and 99 Malaysian companies selected from the OSIRIS Database. The results indicated that during this period Sri Lankan manufacturing companies were considerably more profitable and positive than their counterparts in Malaysia in terms of ROA but the overall performance of Malaysian companies was slightly better than that of Sri Lankan companies in terms of ROE. They also identified a comparatively weaker position of equity investments in the manufacturing sector of Sri Lankan companies, including a relatively poor equity market, high interest rates, and excessive fear of high-risk

investment. A similar trend was observed when the profitability and equity of companies were analysed by industry.

Bhanawat (2010) in his paper entitled 'An Analysis of Raw Material Cost in Indian Manufacturing Industry' evaluated the share of raw material cost in the cost structure of the manufacturing industry. A sample of 58 companies engaged in manufacturing activities was selected covering pharmaceutical, textile, cement, metal, oil, automobile, consumer goods and electrical industries. The study concluded that there was no significant difference among different sectors of the Indian manufacturing industry regarding raw material cost as percentage of gross sales. Chi square test was administered on different ratios to test the hypothesis. The results revealed that, on an average, raw material cost as a percentage of gross sales was 46.46 per cent for Indian manufacturing industries.

Sangmi and Nazir (2010) in their paper entitled 'Analysing Financial Performance of Commercial Banks in India: Application of CAMEL Model, aimed to analyze the financial performance of two major banks operating in northern India one representing the biggest nationalized bank (i.e. Punjab National Bank, PNB) and the other biggest private sector bank (i.e. Jammu and Kashmir Bank, JKB). The viability of the 2 banks has been analyzed on the basis of CAMEL parameters (C for capital adequacy, A for Asset quality, E for Earnings and L for Liquidity) for the period of 5 years (2001-2005). The study was mainly based on secondary data collected from the annual reports of the banks. For the analysis, two important statistical tools viz. Mean and standard deviation were used to arrive at conclusions in a scientific way. The findings of the study showed that both the banks were financially viable as both adopted prudent policies of financial management and managed their capital adequacy ratio well above the minimum standard of 10% fixed by RBI. The average leverage ratio in case of PNB was found higher (1.746) as compare to JKB (0.828) while the Asset quality of both the banks have shown significant performance. The PNB had maintained the ratio of Net NPAs to Net advances at 3.42 per cent, whereas the JKB bank maintained the average ratio of Net NPAs to Net advances at 1.760 per cent. Finally, it was concluded that the position of the banks under study was sound and satisfactory so far as their capital adequacy, asset quality, Management capability and liquidity was concerned.

Bhunia et al. (2011) analysed the financial performance selected public sector drug &pharmaceutical enterprises in India by establishing relationships between the items of the balance sheet and profit and loss account. The two public sector drug & pharmaceutical enterprises, Karnataka Antibiotics and Pharmaceuticals Ltd. (KAPL) and Rajasthan Drugs and Pharmaceuticals Ltd. (RDPL) listed on BSE, were selected as a sample from year 1997-98 to 2008-09. To analyse the financial performance of the companies in terms of liquidity, solvency, profitability and financial efficiency, various accounting ratios were used. Various statistical tools i.e., A.M., S.D., C.V., linear multiple regression analysis and t-test were applied for the analysis. It was concluded that the liquidity position of KAPL was strong and the position of RDPL was poor which reflected the ability of the companies to pay short-term obligations on due dates while the Long-term solvency in case of KAPL was lower indicating that the companies relied more on external funds in terms of long-term borrowings thereby providing a lower degree of protection to the creditors. The study also revealed that the financial stability ratios (debt to net worth ratio) in case of RDPL showed a downward trend and consequently, the financial stability was decreasing at an intense rate.

Majumdar et al. (2011) conducted a study on financial Analysis of Selected Pharmaceutical Companies in Bangladesh for the period of three years from 2005-06 to 2007-08.Financial ratios, Multivariate Discriminate Analysis and various statistical tools like mean, coefficient of variance, standard deviation and T- test were used for the analysis. From the financial statement of the Pharmaceutical industry, it was revealed that the profit earning capacity, liquidity position and the overall financial position of most of the Pharmaceutical companies was poor and most of the Pharmaceuticals companies stood at lower level position of bankruptcy because of the inefficiency of financial management, strict government regulation and increased cost of raw-materials, labour and overhead. It was recommended that the financial performance of the industry should be improved immediately and authorities should take necessary actions.

Goswami & Sarkar (2011) measured and analysed the financial performance of Tata steel by computing the Degree of Operating Leverage (DOL), Degree of Financial Leverage (DFL) and Degree of Total Leverage (DTL) of the selected company for the study period from 2000-01 to 2009-10.The author found that the company was in a

very risky position during the first three years of the study as compared to the entire study period.

Burja (2011) highlighted the Factors which can influence the profitability of companies. These factors can lead to increase the company's competitiveness and would satisfy shareholders' interests. The study was based on the company performance analysis models which highlights the influencing factors of profitability. The multifactor regression analysis was used to analyse the performance models. The results showed a strong relationship between the profitability and the management of available resources.

Saleem & Rehman (2011) in their research paper analyzed the Impacts of liquidity ratios on profitability and found a significant impact of liquid ratio on ROA while there was an insignificant impact of liquid ratio on ROE and ROI. The results also revealed that ROE was not affected by three ratios i.e. current ratio, quick ratio and liquid ratio while ROI was significantly affected by current ratios, quick ratios and liquid ratio. Further, it was found that each ratio (variable) has an important effect on the financial positions of the firms with divergent amounts along with the liquidity ratios in the first place. Profitability ratios also played a vital role in the financial positions of firms.

Rahman (2011) conducted a study on working capital management and profitability of nine textile companies in Bangladesh for a period of three years from 2005-06 to 2007-08. The findings of the study revealed that both, profitability performance as well as the working capital position of the selected textiles companies, were not satisfactory during the study period. The study also revealed that the nature of working capital policy (CA to Sales), financing of working capital (CL to TA), inventory holding period (Inventory Turnover in Days), Accounts Receivable Collection Period (Accounts Receivable Turnover in Days), Accounts Payable Period (Accounts Payable Turnover in Days) and Cash Conversion Cycle in Days of the selected companies had played an important role in determining their overall profitability (Return on Total Assets) during the period under study. It was concluded that poor management of working capital was one of the important causes for poor performance and poor profitability position of the selected textile companies.

Jani (2012) attempted an empirical study on Financial Position of BHEL Ltd by applying the modern tool EVA and the other financial indicators like EPS, EVA,

ROCE, and RONW for a period of 8 years from 2003-04 to 2010-11. The objective of the study was to find out the measures to improve EVA of the company. The result of the study indicated strong correlation between EVA & EPS. The author concluded that company had a strong position in case of capital structure and had a strong financial position during study period. EVA position of company became stronger in the following years when the company made strategy for improvement in EVA, which improved EVA of the company. The author concluded that the financial position of BHEL was sound during the study period.

Parikh (2012) studied financial restructuring and its impact on corporate performance in India. Financial statements of 146 firms, both large as well as medium scale firms, were analyzed and parameters such as sales, gross profits, net profits, gross assets, current ratio and taxes paid by them to the government, were compared before and after the restructuring with the help of Paired t-test. The empirical results indicated that financial restructuring had a significant impact on gross profit of large and medium sized firms in the long run.

Nandi (2012) in his research paper made an attempt to assess the trends in liquidity management and their impact on Profitability of Bharat Heavy Electrical Ltd. (BHEL) for a period of 11 years (i.e. from 1999-2000 to 2009-10). Attempt was made to observe the trend values of liquidity position of the company, to study the correlation between liquidity and profitability and to establish linear relationship between liquidity and profitability with the help of multiple linear regression model. The available secondary data were analysed by using various statistical tests viz. t-test, F-test and chi square test, to test the significance of the results. On the basis of overall analysis, it was inferred that the selected company always tried to maintain adequate amount of net working capital in relation to current liabilities as to keep a good amount of liquidity throughout the study period.

Hossain et al. (2012) examined the Financial Performance of NCBS in Bangladesh. The main objective of their study was to analyse the financial performance of Janata Bank Limited for the period of 10 years from2001 to 2010. The variables namely Net profit, total deposit, total advances, total investment, reserve fund, employee & branch spread ratios, burden ratios, profitability ratios and productivity ratios were selected and examined by applying various statistical tools & techniques and selected accounting ratios to measure the financial performance of the bank. Findings of the

study revealed that the maximum number of calculated ratios profitability ratios, productivity ratio, spread ratio etc. were positive while burden ratio, (non interest expenditure as percentage of working fund) in some years, were not satisfactory. The study also revealed that the main weakness of the bank was the decreasing trend in net profit and Profitability ratios. However, apart from these flaws, few results showed good sign for the bank. It was suggested that if bank tries to recuperate some of its limitations, it would have enhanced performance in future.

Singh & Tandon (2012) conducted a study to measure, evaluate and compare the financial performance of SBI and ICICI Bank for a period of 5 years i.e. from year 2007-08 to year 2011-12 with the help of ratio analysis. For the purpose of the study, secondary data was collected. Mean and Compound Growth Rate (CGR) were calculated to compare the profitability of the selected banks. Findings of the study revealed that the performance of both the banks was good but in terms of deposits and expenditure, ICICI bank had better managing efficiency than SBI. It was also revealed that the customer had more trust on the public sector banks as compared to private sector banks.

Azhagaiah & Gejalaksh (2012) investigated the financial performance of banking sector in India by categorizing the banks based on their financial characteristics. A sample of 36 banks (17 private sector and 19 public sector banks) was taken for the analysis. Simple regression analysis was used to check the impact of asset management, operational efficiency and bank size on the financial performance of selected banks. It was found that the Private sector banks were positively influenced by asset utilization and operational efficiency and interest income while the public sector banks were strongly and positively influenced by asset management, return on assets, operational efficiency and interest income. It was also revealed that public sector banks performed extraordinarily well compared to the private sector banks during the study period of study i.e. from 2008 to 2012. The overall regression analysis showed that the financial performance of the banking industry was strongly and positively influenced by the operational efficiency, asset management and interest income size.

Tehrani et al. (2012) conducted a studyto develop a model for the evaluation of companies' performance by using financial information and Data Envelopment Analysis technique. Primary as well as secondary data were used for the study. A

questionnaire was used to determine input and output variables in the DEA model while for collecting the financial data, the financial statements were used in the study. Mean values of financial performance ratios measuring liquidity, activities, leverage, and economic added value were employed as input indices of Data Envelopment Analysis (DEA) Model while profitability ratios were employed as output indices of the model. BCC input oriented covering model was used to rank the companies under study. The findings revealed that out of 36 companies only 9 companies were efficient and were further ranked by Anderson Peterson Model, whereas, the remaining 27 companies were regarded as inefficient.

Joshi (2013) examined the profitability of the selected public sector FMCG companies in India by using secondary data taken from the financial statements of HUL, COLGATE and ITC from prowess database. To measure the profitability, Net Operating Profit Ratio (PBT to Sales), Net Profit Margin Ratio, Profit after Tax (PAT) to Net Worth Ratio, Cash Profit to Net Worth Ratio, were calculated. Simple statistical measures like mean and ANOVA Test were applied for hypothesis testing. Findings of the study revealed that there was a vast difference in net operating profit ratio, net profit ratio, PAT to net worth ratio and cash profit to net worth ratio of selected companies.

Katchova and Enlow (2013) in their study entitled "Financial performance of publicly-traded agribusinesses" aimed to compare the financial performance of food producing agribusinesses with all publicly traded companies with low, median, and high performance for a period of 50 years from 1961 to 2011.For the analysis, five different financial ratios were selected to measure the profitability, liquidity, firm activity, solvency and market performance for a total of 12 specific ratios and the various items of the balance sheet and income statement. Du Pont analysis was performed to compare the return on equity components of agribusinesses with all firms. The analysis showed that the higher return on equity of agribusinesses was mostly due to higher asset turnover ratios, indicating higher operating efficiency of agribusinesses. It was also found that agribusinesses outperform the median sample of all firms in terms of financial ratios related to profitability, liquidity, and market ratios, but had slightly lower than liquidity and debt ratios.

In another study, **Hofmann and Lampe (2013)** analysed the financial statement of logistics service providers (LSP). The objective of the study was to analyse the

balance sheet structure of LSPs in order to find out the differences between single provider and defined LSP groups (clusters) and to point out the dependency of asset, capital and liquidity structures on LSPs specific characteristics. Furthermore, the author also explained which financial indicators were positively influenced by profitability. A sample of total 150 quoted LSPs from all over the world, allocated to six different clusters depending on scope of service, were examined. Study of detailed balance sheet analysis using contingency theory, complemented by a correlation analysis, provides information about the financial structure, similarities and differences within and in-between the LSP clusters. The financial information data was collected from the Bloomberg and Factiva web database and the information publicized by the company's annual balance sheets serve as an additional data source. It was concluded that there were many differences regarding the financial structures of LSPs. The asset and liquidity structure of LSPs showed significant differences, while the capital structure was found mostly homogeneous. It was also found that Profitability was achieved in various ways i.e. focusing on high net profit margin or asset turnover rates. Further, the authors observed that the financial analysis yields information for making strategic decisions including organic growth, outsourcing, mergers and acquisitions or cooperation between LSPs, are the practical implications of the study.

Makkar and Singh (2013) attempted a comparative analysis of the financial performance of 37 Indian commercial banks (22 public sector banks and 15 private sector banks). The capability of selected banks was analysed on the basis of CAMEL parameters (C for capital adequacy, A for Asset quality, E for Earnings and L for Liquidity) for a period of 5 years from 2006-07 to 2010-11. It was found that the IDBI Bank was the best performing bank followed by Kotak Mahindra Bank and ICICI Bank whereas Dhanalaxmi Bank showed the worst performance followed by J & K Bank and Karnataka Bank Ltd. It was observed that the result of t - test disclosed a significant difference in the Asset Quality, Earning Capacity and Capital Adequacy of public and private sector banks in India, whereas there was no significant difference in the Liquidity Position, Management and Sensitivity to market risk of the two different banks groups. Finally, it was concluded that, on an average, there was no statistically significant difference in the financial performance of the public and private sector banks in India. It was suggested that there was a need of overall

improvement in the public sector banks for making their position stronger in the competitive market.

Alfan and Zakaria (2013) attempted to review financial performance and distress of Malaysian Construction Companies. The study was based on secondary data collected from the annual reports of five large companies for a period of six years from 2004 to 2009.A sample of 5 companies out of 49 companies listed on Bursa Malaysia in the construction sector was selected for the study. Financial ratios namely Operating Profit Margin, Return on Equity, Return on Assets ,Total Assets Turnover, Quick Ratio and Debt Ratio was used for analysing the financial performance of the companies. Altman Z score model was applied to predict the future performance of selected companies, corporate defaults and to calculate the control measure for the financial distress status of companies in Malaysia before, during and after the financial crisis. Findings of the study concluded that the financial performance of the selected 5 companies in Hong Kong declined very fast in the past few years. Form the financial analysis it was revealed that the construction industry in Malaysia has reached the state of grim struggle. It was concluded that the existing situation of over competition, increased construction costs and reduced collective demand in Malaysia had caused extreme difficulty of reversing the financial performance in the coming years.

Akotey, et al (2013) assessed the financial performance of life insurance industry of Ghana. The study explored the key determinants of the profitability of the life insurance industry of Ghana and analyzed the relationship between the three measures of insurers' profitability, i.e. underwriting profit, investment income and the net profit of ten life insurance companies for a period of 11 years (2000-2010) through panel regression. The findings of the study revealed that the life insurers companies were incurring underwriting losses due to overtrading, high claims payments and high managerial expenses. It was also found that gross written premiums and total assets were having negative effect on investment income due to the management of their investment portfolios. Further, they recommended that life insurance companies should have separate departments with requisite personnel for investment operations and underwriting activities and the activities of these departments must be managed closely together in a complementary manner.

Patel (2013) conducted a study to examined the impact of global financial crises on the profitability of Indian Scheduled Commercial banks for a period of 4 years from 2006-07 to 2010-11. Ratio Analysis technique and Descriptive statistical method has been used for the data analysis. The study revealed that after global crises, cost of deposits, return on Investments and return on funds had increased during the study period whereas Cost of borrowings, cost of funds and return on advances had decreased during the study period. Profitability ratios of FBs had also decreased after global financial crises. It was suggested that Central bank and government should concentrate on banking development for the development of economy.

Nedunchezhian (2013) investigated the Impact of Financial Performance of commercial Banks to find outperformance and effectiveness of banks during the post-merger period in the areas of Capital Adequacy Ratio, Management Efficiency Ratio, Earnings and Profitability Ratio, Leverage Ratio. The former Ged banks i.e. BOB With IOB, Sangli Bank with ICICI, Centurion Bank of Punjab with HDFC, United Western bank with IDBI were selected for the study during the period from 2006 to 2010.For analysis the ratios were used to compare the performance of local banks during the pre-merger period (2003-2006) and post-merger period (2008-2011) while paired sample t-test was used to determine the significance differences in financial performance of banks before and after the merger activity. It was found that the growth of Debt Equity ratio, Growth rate of Total Advances to Total Assets Ratio and Dividend pay-out ratio of all selected banks except Indian Overseas Bank showed lesser improvement after mergers. Finally, it was concluded that the Overall performance of the selected Banks after merger showed better progress in most of the areas.

Rehman (2013) investigated the relationship between the financial leverage and Financial Performance of listed sugar companies in Pakistan for a period of 5 years from 2006 to 2011.Descriptive statistics and Correlation analysis were used to analyse the data. The findings of the study showed a mix result and revealed that there was positive relationship of debt equity ratio with return on asset and sales growth and there was a negative relationship of debt equity ratio with earning per share, net profit margin and return on equity during the study period.

Rehman (2013) investigated the relationship between the financial leverage and Financial Performance of listed sugar companies in Pakistan for a period of 5 years

from 2006 to 2011.Descriptive statistics and Correlation analysis were used to analyse the data. The findings of the study showed a mix result and revealed that there was positive relationship of debt equity ratio with return on asset and sales growth and there was a negative relationship of debt equity ratio with earning per share, net profit margin and return on equity during the study period.

Taqi (2014) comparatively analyzed financial performance of two major trading companies of India, State Trading Corporation and Minerals and Metals Trading Corporation, with the help of accounting ratios such as current ratio, liquid ratio, gross profit ratio, net profit ratio, inventory turnover ratio and earnings per share. Business practices of both the companies were also studied comparatively. Independent sample t-test and correlation matrix were used in the analysis of both companies. The study concluded that the financial performance of MMTC Ltd was comparatively better than STC.

Borhan, Mohamed & Azmi (2014) studied the impact of financial ratios on the financial performance of a chemical company, Lyondell Basel Industries, for a period of nine years from 2004 to 2011.The objective of the study was to analyze the financial performance of a merged company LYB and to examine the impact of liquidity, profitability and leverage ratios on the company's financial performance with the help of Multiple regression analysis. Lyondell Basel financial performance (LYBP) was taken as the dependent variable and the current ratio (CR) (liquidity ratio), debt ratio (DR) (leverage ratio) and net profit margin (NPM) (profitability ratios) were the independent variables .It was concluded that all the independent variables (liquidity ratio, leverage ratio and profitability ratio) had a positive impact on LYBP, expect DTER and OPM which showed a negative relationship with the company's financial performance. Among the six ratios, CR, DR and NPM showed the highest significant impact on the company's performance. Finally, it was suggested that to increase the profitability margin, the company should reduce its expenses portion, increase the total revenue and maintain total cash fixed costs.

Rahaman & Sur (2014) attempted to examine the Profitability of 22 selected companies of Indian textile industryfrom2002-03 to 2011-12 with the help of ratio analysis. For the purpose of study, secondary data was collected from Capitaline Corporate Database. Simple statistical tools like arithmetic mean, Pearson's simple correlation analysis, Kendall's correlation analysis, Spearman's rank correlation

analysis, multiple regression analysis and statistical tests such as t-test, Chi-square and F-test were used for analysis. Findings of the study showed that the composite profitability scores of SRF, Vardhman, Bombay rayon, Himatsingka and Welspun were the top five amongst the selected firms while Eskay, Alps, Spentex, Abhishek and Bombay Dyeing were placed in the last five positions, respectively. A significant positive correlation between overall profitability (ROCE) and efficiency (FATR) was observed in 54.55 percent cases whereas in only 1.52 percent cases the impact of fixed assets management on profitability was significantly negative. The findings of the pooled correlation analysis also showed that the association between profitability and fixed assets management was positive and significant. The result derived from the multiple regression of ROCE on FATR and WCTR showed that there was a significant positive influence of fixed assets management and working capital management of the selected companies on their profitability. The analysis of correlation between efficiency in working capital management and overall profitability revealed that the relationship was positive in 77.27 percent cases while the same was negative in 22.73 percent cases. However, a significant positive relationship was found only in 12.12 percent cases while no significant negative association was found.

Shah and Jan (2014) analyzed the financial performance of top ten Private commercials banks in Pakistan to find the impact of variables on financial performance of the selected banks with the help of Regression and correlation technique. The results revealed that the Bank size and Operational Efficiency were negatively related with ROA whereas positive relationship was found with Assets management ratio. Furthermore, Bank size had positive relationship with Interest Income and Asset Management. On the other hand, Operational Efficiency showed a negative relationship with Interest Income.

Desai and Joshi (2015) studied impact of financial restructuring on corporate performance of Steel Industry in India. Secondary sources of data were considered for the study. Financial statements of steel sector firms, both large and medium scale firms, were analysed by taking sales, gross profits, net profits, gross assets, taxes paid and current ratio as parameters, before and after the restructuring. Paired t-test was used to compare the performance of these firms before and after the restructuring.

Results of the study indicated that financial restructuring had a significant impact on the financial performance of large and medium sized firms in the long run.

2.4 RESEARCH GAP

Researcher reviewed a number of studies on Cement Industry and financial performance which showed that very little work had been conducted in evaluating the financial performance of Cement based Trading Companies, especially in India. Most of the studies had been done in other sectors of economy especially regarding their financial performance. But No particular study had been made on Cement Corporation of India Limited. A number of studies have been made on human resource, marketing and production management of public enterprises. A number of studies have been made about the causes of poor performance of majority of public enterprises but no study has been made on the financial performance of a public sector cement company. Hence, in the present study, the Researcher has made an attempt to evaluate the financial performance of one of the major Cement Company in India. The study is related to the appraisal of financial performance of Cement Company which has not been explored till now. Through this study, the Researcher has attempted to fill the gap of research in this specific area.

The extensive literature has been reviewed on financial performance of Cement Industry and financial appraisal of firms in other industries separately in the present chapter. The next chapter will provide the overview of Indian cement Industry.

REFERENCES

Akotey, J. O., Sackey, F. G., Amoah, L. & Manso, R. F. (2013).The financial performance of life insurance companies in Ghana. *The Journal of Risk Finance, 14*(3), 286-302. Retrieved from http://www.emeraldinsight.com /journals.htm?articleid=17088852

Alfan, E. and Zakaria, Z. (2013). Review of Financial Performance and Distress: A Case of Malaysian Construction Companies. *British Journal of Arts and Social Sciences, 12*(II), 143-157. Retrieved from http://www.Bjou rnal.co.uk/paperBJASS_ 12_2/BJASS_12_2_01.pdf

Azhagaiah, R., & Gejalaksh, S. (2012), Financial Performance of Private Sector and Public Sector Banks in India: An Empirical Analysis. *International Center for Business Research, 1*(dec), 19-29. Retrieved from http://ic br.net/pub /full_ pdf/ icbr. net-0112.03.pdf

Bhanawat, S .S. (2010). An analysis of raw material cost in Indian manufacturing industry. *The IUP Journal of Accounting Research and Audit Practices,9*(3), 65-80.

Bhunia, A. (2007). Liquidity Management of Public Management Iron and Steel Enterprises in India. *Vidyasagar University Journal of Commerce, 12*, 85-98. Retrieved from http://www.vidyasagar.ac.in/journal/Commerce/vol12/8th%20 Article.pdf

Bhunia, A., Mukhuti, S., & Roy, G. (2011). Financial Performance Analysis-A Case Study. *Current Research Journal of Social Sciences, 3*(3), 269-275. Retrieved from http://maxwellsci.com/print/crjss/v3-269-275.pdf

Borhan, H., Mohamed, R. N., & Azmi, N. (2014), The impact of financial ratios on the financial performance of a chemical company: The case of Lyondell Basell Industries. *World Journal of Entrepreneurship, Management and Sustainable Development, 10*(2), 154-160. Retrieved from http://www.emeraldinsight.com/ journals.htm?articleid=17108998

Burja, C. (2011). Factors influencing the Companies' Profitability. *Annales Universitatis Apulensis Series Oeconomica, 13*(2), 215–224. Retrieved from http:// www.oeconomica.uab.ro/upload/lucrari/1320112/03.pdf

Capon, N., Farley, J. U., & Hoenig, S. (1990). Determinants of Financial Performance: A Meta Analysis. *Management Science, 36*(10), 1143–1159. Retrieved from http://www.jstor.org/stable/2632657

Chakraborty, K. (2008). Working Capital and Profitability: An Empirical Analysis of Their Relationship with Reference to Selected Companies in the Indian Pharmaceutical Industry. *The Icfaian Journal of Management Research*, *7*(12), 41-58.

De, A., Bandyopadhyay, G. & Chakraborty, B. N. (2011). Application of the Factor Analysis on the Financial Ratios and Validation of the Results by the Cluster Analysis: An Empirical Study on the Indian Cement Industry. *Journal of Business Studies Quarterly*, *2*(3), 13–31. Retrieved from http://jbsq.org/wp-content/uploads /2011/06/June-2011-B.pdf

Desai, J. & Joshi, A. N. (2015). Financial Restructuring and Its Impact on Corporate Performance in Steel Industry in India. *International Journal of Management and Social Sciences Research,4*(11). 194-211,

Dhanabhakyam, M., & Kavitha, M. (2012). Financial performance of selected public sector banks in india. *International Journal of Multidisciplinary Research*, *2*(1), 255–269. Retrieved from http://zenithresearch.org.in/ images/stories/pdf/2012/Jan/ZIJMR/18MDHANABHAKYAMfinancial performance.pdf

Eljelly, A. M. A. (2004). Liquidity-Profitability Trade-off: An Empirical Investigation in an Emerging Market. *International Journal of Commerce and Management, 14*(2), 48 – 61. Retrieved from http://dx .doi.org/10.1108/10569210480000179

Falk, R. (2005). *Industrial Sickness in Indian Manufacturing Industry*. (Doctoral thesis). Department of Economics, University Heidelberg.

Franklin, L. L., & Uma, K. (2013). Impactof Marginal Costingand Leveragesfor Cement Industries. *International Journal of Advanced Research in Management and Social Sciences*, *2*(4), 58–67. Retrieved from http:// www.garph.co.uk/IJARMSS/ Apr2013/6.pdf

Goswami, S. & Sarkar, A. (2011). Analysisof Financial Performance of Tata Steel – A Case Study. *International Journal of Multidisciplinary Research*, *1*(5), 161–174. Retrieved from http://www.Zenithresearch.Org.in/images/stories/ pdf/2011/Sep /11.Vol_01_Issue_05 Suvarun Goswami Full Article.pdf

Hofmann, E., & Lampe, K. (2013). Financial statement analysis of logistics service providers: ways of enhancing performance. *International Journal of Physical Distribution & Logistics Management*, *43*(4), 321–342. doi:10.1108/IJPDLM-08-2012-0229

Hossain, Z., Hossain, A., Kumar, D., Hasan, S. M. & Islam, F. (2012). Financial Performance Analysis of NCBSin Bangladesh : A Case study on Janata Bank Limited. *Bangladesh Research Publications Journal*, *7*(4), 428–436. Retrieved from http://www.bdresearchpublications.com/ad min/journal/upload/09365/09 365.pdf

Huang, S. M., Tsai, C. F., Yen, D. C., & Cheng, Y. L. (2008). A hybrid financial analysis model for business failure prediction. *Expert Systems with Applications*, *35*(3), 1034–1040. doi:10.1016/j.eswa.2007.08.040

Jani, R. R. (2012). A Study on Financial Position of Bhel Ltd through Modern Tool Eva: An Empirical Study. *International Journal of Scientific Research*, *1*(5), 98-99. Retrieved from http://theglobaljournals.com/ijsr/file.php?val=October_ 2012_1349179164_07f3d_33.pdf

Joshi, A. (2013). A Study of Profitability Analysis of Selected FMCG Companies in India. *Indian Journal of Applied Research*, *3*(6), 368–370. Retrieved from http://www.theglobaljournals.com/ijar/file.php?val=June_2013_1370077625_ 6 654a _122.pdf

Kantawala, A. S. (2001). Financial performance of non banking finance companies in India. *The Indian Economic Journal*, *49*(1), 86-92. Retrieved from http://unpan1.un.org/intradoc/groups/public/documents/apcity/unpan019759.p df

Katchova, A. L., & Enlow, S. J. (2013). Financial performance of publicly-traded agribusinesses. *Agricultural Finance Review*, *73*(1), 58–73. doi:10.1108/00021461311321311

Kaur, S., & Singh, F. (2013). Impact of Liberalization on cost of capital: A case study of Associated Cement Companies Limited.*International Journal of Multidisciplinary Research*, *3*(7). Retrieved from http://zenithresear ch.org.in/images/stories/ pdf/2013 /JULY/ZIJMR/1_ ZIJMR_VOL3_ISSUE7_ JULY 2013.pdf

Kumar, P. K., John, S. F., & Senith, S. (2013). A Study on the Progress of Indian Cement Industry. *British Journal of Marketing Studies*, *1*(1), 1–15. Retrieved from http://www.eajournals.org/wp-content/uploads/A-STU DY-ON-THE-PROGRESS-OF-INDIAN.pdf

Mahmoudi, S. (2014). The Effect of Leverage on Cement Industry Profitability. *Reef Resources Assessment and Management Technical Paper*, *40*(1), 673–676. Retrieved from http://behaviorsciences.com/wrramt/wp-cont ent/uploads/2014 /03/76-Mahmo udi.pdf

Majumder, M. T. H, & Rahman, M. M. (2011). Financial analysis of Selected Pharmaceutical companies in Bangladesh. *European Journal of Business and Management,* *3*(2), 146-164. Retrieved from http://www.Isste.org/Journals/index.php/EJBM/article/view/170

Makkar, A., & Singh, S. (2013). Analysis of the Financial Performance of Indian Commercial Banks: A Comparative Study. *Indian Journal of Finance*, *7*(5). Retrieved from http://indianjournaloffinance.co.in/pdf Abstract/ May2013/Paper5.pdf

Mukhopadhyaya, J. N., Roy, M., & Raychaudhuri, A. (2012). An Analytical Study of the Chnaging Structure in the Cement Industry of India. *Indore Management Journal*, *4*(1), 11–23. Retrieved from http://www.iimidr.ac.in/ iimi/images/IMJ/Volume4_Issue1/An Analytical Study of the Changing.pdf

Müslümov, A. (2005). The financial and operating performance of privatized companies in the Turkish cement industry. *Metu Studies in Development*, *32*(August), 59–101. Retrieved from http://www. Muslumov.com/wp-content/uploads/2012/07/ PRIVATIZ ATION-METU-Studies-in-Development-2005.pdf

Nandi, K. C (2012), Trends in Liquidity Management and their Impact on Profitability- A Case Study, *Great Lakes Herald , 6*(1), 16-30. Retrieved from http://www.greatlakes.edu.in/pdf/Herald/Vol6/mar2012v6_c2.pdf

Nedunchezhian, V. R., & Premalatha, K. (2013). Analysis And Impact Of Financial Performance of Commercial Banks After Mergers In India. *International Journal of Marketing, Financial Services & Management Research*, *2*(3), 150–162. Retrieved from http://indianresearchjournals. Com/pdf/IJMFSMR /2013/ March/ 14.pdf

Ningsih, W., & Djuaeriah, N. (2013). The Capital Structure And Firm ' s Financial Leverage In Indonesian Publicly Listed Cement Industry. In *Proceedings of World Business and Social Science Research Conference* (pp. 1–14). Retrieved from http://www. wbiworldconpro. Com/uploads/bangkok-conference-2013-october/fina nce/1382556355 _ 318-Neneng.pdf

Panigrahi, A. K. (2013a). Liquidity Management of Indian Cement Companies – A Comparative Study. *IOSR Journal of Business and Management*, *14*(5), 49–61. doi:10.9790/487X-1454961

Panigrahi, A. K. (2013b). Relationship between Inventory Management and Profitability□: An Empirical analysis of Indian Cement Companies. *Asia Pacific Journal of Marketing & Management Review*, *2*(7), 107–120. Retrieved from http://indianresearchjournals.com/pdf/APJMMR/ 2013/July /11.pdf

Parikh, H. M. (2012). *Financial restructuring and its impact on corporate performance in India*.(Doctoral Thesis), Gujarat University, Gujrat.

Patel, R. K. (2013). Profitability analysis of indian scheduled commercial banks. *International Journal of Multidisciplinary Research*, *3*(9). Retrieved fromhttp://zenithresearch.org.in/images/stories/pdf/2013/SEP/ZIJMR /12_ZIJMR_VOL3_ISSUE9_SEPTEMBER2013.pdf

Rahaman, S. M. & Sur. D. (2014). Profitability of Selected Co.s in Textile Industry: An Emprical Assessment. *The Management Accountant, 49*(2),63-74.

Rahman, M. M. (2011). Working Capital Management and Profitability: A Study on Textiles Industry, *ASA University Review, 5*(1), 115-132. Retrieved from http://www.asaub.edu.bd/data/asaubreview/v5n1sl7.pdf

Rajeswari (2000). Liquidity Management of Tamil Nadu Cement Corporation Ltd, Alangulam- A Case Study, *The Management Accountant, II*(2), 377-378.

Rakshit, D. (2006). Eva based Performance Measurement□: A Case Study. *Vidyasagar University Journal of Commerce*, *11*(March), 40–59. Retrieved from http://vidyasagar.ac.in/journal/Commerce/4 EVA based Performance Measurement.pdf

Ray, S. (2013). Investigating Capital Structure Determinants in Listed Cement Companies of India. *Financial and Quantitative Analysis*, *1*(3), 47–58. doi:10.12966/fqa.09.02.2013

Rehman, S. S. F. U. (2013). "Relationship between Financial Leverage and FinancialPerformance: Empirical Evidence of Listed Sugar Companiesof Pakistan." *Global Journal of Management and Business Reserach Finance*, *13*(8), 33–40. Retrieved from http://journalof business.org/index.php/GJMBR/article/viewFile/1081/992

Saleem, Q., & Rehman, R. U. (2011). Impacts of liquidity ratios on profitability (Case of oil and gas companies of Pakistan). *Interdisciplinary Journal of Research in Business*, *1*(7), 95–98. Retrieved from http://www. Idjrb .com/articlepdf/idjrb7n9.pdf

Samuel, J. J. J. (2012). A Study on Financial Performance of the India Cements Limitedi in Sankar Nagar at Tirunalveli District. *International Jounal of Research in IT, Management and Engineering*, *2*, 23–46. Retrieved from http://gjmr.org/IJRIME/vol2issue5/3.pdf

Sandhar, S. K., & Janglani, S. (2013). A Study on Liquidity and Profitability of Selected Indian Cement Companies: A Regression Modeling Approach. *International Journal of Economics, Commerce and Management, I*(1), 1–24. Retrieved from http://ijecm.co.uk/wp-content /uploads/2014/01/115.pdf

Sangmi, M. D.& Nazir, T. (2010). Analyzing Financial Performance of Commercial Banks in India: Application of CAMEL Model. *Pakistan Journal of Commerce and Social Sciences*, *4*(1), 40–55. Retrieved from http://www.jespk.net/publications/28.pdf

Selvam, M., et al. (2004). A study on financial health of Cement Industry-'Z' score analysis. *The management Accountant, 39*(7), 591-593.

Shah, S. Q .& Jan, R. (2014). Analysis of Financial Performance of Private Banks in Pakistan. *Procedia - Social and Behavioral Sciences, 109,* 1021–1025. doi:10.1016/j.sbspro.2013.12.583

Singh, A. B. & Tandon, M. S. P. (2012). A Study of Financial Performance: A Comparative analysis of SBI and ICICI Bank. *International Journal of Marketing, Financial Services & Management Research*, *1*(11), 56–71. Retrieved from www.indianresearchjournals.com http://indianresearch journals.com/pdf/IJMFSMR/2012/November/5.pdf

Singh, P. K. (2003). Financial appraisal of IDBI bank Ltd. through financial indicators. *The Management Accountant,38*(6), 425-433.

Srinivasan, R.& Sundari, C. U. T. (2011). Dimension of Financial Performance of Cement Units in South India-An Emphirical Sudy(Z Score Analysis). *International Jounal of Research in Commerce & Management*, *2*(7), 64–68. Retrieved from http://ijrcm.org.in/download.php?name=ijrcm-1-vol-2_issue-7-art 12.pdf&path=uploaddata/ijrcm-1-vol-2_issue-7-art-12.pdf

Swaminathan, R., Rajesh, N., & Jasim, K. M. (2013). Working Capital Management of Selected Cement Companies in India. *International Journal of Mangement and Development Studies*, *2*(2), 17–26.

Taqi, M. (2014). Financial appraisal of Indian trading companies: A comparative study of State Trading Corporation of India Ltd. & Minerals and Metals Trading Corporation of India Ltd. *The Macrotheme Review: A Multidisciplinary Journal of Global Macro Trends, 3*(3),99-116. Retrieved from http://macrotheme.com/ yahoo_site _admin/assets /docs/9MR 31CMo.1361354.pdf

Tehrani, R., Mehragan, M. R., & Golkani, M. R. (2012). A Model for Evaluating Financial Performance of Companies by Data Envelopment Analysis - A Case Study of 36 Corporations Affiliated with a Private Organization. *International Business Research*, *5*(8), 8–16. doi:10.5539/ibr.v5n8p8

Tiwari, S. (2013). A Study on Working Capital Management Efficiency In Indian Cement Industry. *International Journal of Management and Science*, *4*(1), 191–197.

Venkataramana, N., Azash, S., & Ramakrishnaiah, K. (2012). Financial performance and Predicting the risk of Bankruptcy: A Case of Selected Cement Companies in India.*International Journal of Public Administration and Management Research*, *1*(1), 40–56. Retrieved from http://rcmss.com/1ijpamr/financial performance and predicting the risk of bankruptcy_ a case of selected cement companies in india.pdf

Vijayanathimala, P. & Vijayakumar, A. (2014). liquidity , risk and profitability trade off -An empirical investigation in indian cement industry.*International Journal of Multidisciplinary Research*, *4*(6), 116–133. Retrieved from http://zenithresearch. org.in/images/stories/pdf/2014/JUNE/ZIJMR/12_ZIJMR_VOL4_ISSUE6_JUNE2014.pdf

Zoysa, A. De. (2009). Profitability analysis of listed manufacturing companies in Sri Lanka and Malaysia: An empirical investigation. In *4th Asian academy of applied business conference* (pp. 34–43). Makati City. Retrieved from http://ro.uow.edu.au/commpapers/1155

Chapter - 3

An Overview of Cement Industry in India

3.0 INTRODUCTION

An extensive review of literature has been made in the previous chapter. In the present chapter, an overview of Cement industry of India has been discussed in details along with some other major players of cement industry in India.

Cement is a kind of substance which sets and hardens independently and it is also a binding agent that can bind other materials jointly. The term'cement' was originally traced back to the Romans term *'opuscaementicium'*. They employed the term to describe masonry, which is similar to a concrete and was made from crushed rock with burnt lime as binder. The volcanic ash and pulverized bricks were combined to the burnt lime to acquire a hydraulic binder. They were later come to be known as *cementum, cimentum, cament and cement* (Varma & Sirisha, 2013). Cement can be regarded as one of the basic materials needed for construction programs of various Infrastructures such as transport, water and power supply, dams, roads as well as housing and industrial plants. Apart from its use as an in-situ material, it is also used for the production of a wide range of basic components such as blocks, bricks and tiles or very complex components such as precast and prestressed frames and articles. It is, however, used more particularly for the production of concrete. Some form of cement has been used by man in building works for over 2010 years (Low & Tan, 1993).

Apart from all other products, cement has been a major contributor to the modernization of human civilization. The massive urban infrastructure that we see today across the world would have been far from imagination without cement. Cement is the root substance that has given the essential element of strength and durability to our houses, schools, offices and other buildings so that we survive in them without any fear. The word "cement" literally means a substance that can bind material together and can acquire strength on hardening. Cement, as we know today, is a specialized building material which is a product of various innovations in the past and is made in sophisticated manufacturing facilities. In eighteenth century's England, John Smeaton, a British engineer, was assigned the task of reconstructing the Eddy stone lighthouse, a structure that had witnessed repeated structural failure. In 1756, Smeaton conducted a number of experiments which led to the discovery that cement

made up of limestone contains a considerable proportion of clay that would harden under water. Subsequently, based on this discovery until the early part of the nineteenth century, large quantity of natural cement was used, that was made by combining naturally occurring lime and clay.In 1824, Joseph Aspdin and a British mason obtained a patent on his hydraulic cement formula that is very much similar to the modern cement as we know today. He called it Portland cement and it was made through the process of proportionate mixing, burning and the subsequent grinding of a combination of clay and limestone. Cement goes through many more improvements and developments during nineteenth and twentieth centuries. The industrial revolution and the subsequent development of the rotary kiln paved the way for huge and sophisticated cement manufacturing plants. These plants possess the capacity of homogenies mixing and intense heating of the raw materials thus vastly improving the quality of the cement produced (Hewlett, 2003)**.**

In Britain particularly, good quality building stone became ever more expensive during a period of rapid growth and it became a common practice to construct prestige buildings from the new industrial bricks and to finish them with a stucco to imitate stone. Hydraulic limes were favored for this, but the need for a fast set time encouraged the development of new cements. The Parker's Roman cement became more popular among all these cement. This was produced by James Parker in the 1780s and finally patented in 1796 (Francis, 1977)**.** The prosperity of "Roman Cement" leads other manufacturers to compose rival products by burning artificial mixtures of clay and chalk.

While planning the construction of the third Eddy Stone Lighthouse in the English Channel, John Smeaton made worthwhile contribution to the progress of cements. He needed a hydraulic mortar that would set and develop some strength in the twelve hour period between successive high tides and performed an exhaustive market research on the available hydraulic limes, visiting their production sites and pointed out that the "hydraulicity" of the lime was directly linked to the clay content of the limestone from which it was made up of. Smeaton was a civil engineer by profession, and he didn't take up the idea any further. Apparently unaware of Smeaton's work, the same principle was identified by Louis Vicat in the first decade of the nineteenth century. Vicat went on to devise a method of combining chalk and clay into an intimate mixture and burning this produced 'artificial cement' in 1817. James Frost, working in Britain, formed what he called "British cement" in a similar

manner around the same time, but he did not obtained a patent until 1822. In 1824, Joseph Aspdin patented asimilar material, which was called Portland cement, because the render made from it was in color similar to the prestigious Portland stone (Tharumar, 2010).

3.1 CEMENT INDUSTRY OF INDIA: AN OVERVIEW

Cement is one of the essential industries which play a vital role in the growth and development of a nation.The Indian cement industry is the 2nd largest industry in the world after China accounting for about 8 per cent of the total global production (Cement Sector Analysis Report April 2014)**.**The indigenous Indian cement industry traces its history back to 1914. It was the time when market was dominated by the imports.The First cement factory in India named, South India Limited, was established in 1879 in Madras (now Chennai). It began its production during 1904, but the factory was not so successful. During this period, three new factories came into existence. First successful factory was set up in 1914 by Tata at Porbander in Gujarat. It was known as Indian Cement Company Ltd. Second factory was set up in Rajasthan and third in Madhya Pradesh. By the end of World War I (1918), India was producing 85,000 tonnes cement (Jain & Khanna, 2010).

After World War I, the industry made a rapid progress.During 1925, the cement Industry received protection. In 1926, cement producers founded Indian Cement Manufacturers Association to end the competition which was prevailing among them. During the period of 1927, in order to develop production and distribution of cement, Concrete Association of India was set up. Due to the efforts of these organisations, production of cement expanded. In 1930, Cement Marketing Company of India was established. In 1936, with a view to making cement industry well organised and in order to eliminate competition, all companies jointly set-up Associated Cement Company which is popularly known as ACC. Barring one or two factories, management and sale of production of almost all other factories was arranged by this company. In 1938, cement companies of Dalmia group, formed a separate group. In this way, private sector was divided into two groups i.e. ACC Group and Dalmia Jain Group. In 1938, first factory of public sector was established at Bhadravati in Karnataka (Jain et al, 2010).

In 1942, Indian cement industry's production capacity came under the control of defense for India rules as part of the war effort. With up to 90 per cent of cement

heading directly to defense purposes, the apparent private market shrank by a factor of 10. After the conclusion of the Second World War, during which capacity reached 3.2Mt/yr, controls stayed in place. From 1945 to 1956, the government regulated prices directly. However, it became increasingly obvious that regulated prices from central government could not provide the cement that the country was demanding of. The controls were relaxed in steps, with a free market from 1989 onwards. The result of de-regulation was a massive expansion of cement capacity, which has since only accelerated as the country has developed and opened up its economy (Suseela & Maruthamuthu, 2014).

During early 1980s, the process of liberalization was started in the Indian cement industry. Prior to this, the cement industry had been subjected to strict government control with regard to pricing, production and distribution. In 1982, controls were partially deregulated which lead to an enlargement in cement production capacities. During1989, the industry was further deregulated to allow the market forces to determine the prices and distribution. Due to this liberalized environment, several existing and new enterprises were encouraged to set up large cement capacities during 1990s. By the end of this decade, supplies increased substantially and the earlier existing cement shortage disappeared from the Indian market. However, the intense competition amongst manufacturers was one of the crucial reasons for a fall in prices and it rendered several smaller and less-efficient manufacturers uncompetitive in the new environment. In such an environment, companies want to expand their size so as to gather the benefits of economies of scale experienced by a large company. Since the cost of setting up a new plant is quite high in capital-intensive industries, companies are going for mergers and acquisitions. Currently, this industry is going through a phase of consolidation where larger companies are acquiring capacities to consolidate their market shares through mergers and acquisitions (Sharma, 2008).

In 1947, at the time of partition of the count, there were 18 cement factories in India, producing 14.5 lakh tonnes of cement. Actual growth of cement industry in public sector was commenced from 1965 when the government set-up Cement Corporation of India. This corporation installed 11 factories in different states, viz, M.P., Karnataka, Assam and Himachal Pradesh. The cement industry was delicensed in 1991 and was set free from all types of government control. In 2007-08 cement

industry had 140 large cement plants and 365 mini cement plants in India. (Jain et al, 2010).

The Indian cement industry has evolved significantly during the last two decades, going through all the phases of typical cyclical growth process. The industry went into a consolidation phase after a period of over-supply and a phase of massive capacity additions. Due to the sturdy economic growth and infrastructure development, the demand for cement goes up. Further addition to capacity is coming up to cater to the increasing demand for cements. The per capita consumption of cement in India is 125 kg which is only about a third of the world average. It pointed out the growth potential for this industry. The demand for cement is mainly rely upon the level of development and the rate of growth of the economy. In the post deregulation era, production of cement rose from 23.5 million tons in 1983 to 44.1 million tons in 1989 and to 142 million tons in 2006 (Kumar et al., 2013).

The structure of the industry is fragmented and can broadly be classified into three categories; namely companies with all India presence, regional presence and marginal presence. The first category consists of two groups with all India presence viz., Holcim (the Swiss multinational) controlled ACC and Ambuja cements; Aditya Birla group controlled Grasim Industries, Century Textiles and UltraTech Cement. The second category consisted of companies whose presence is restricted to one region but with a stronghold in markets of their respective operations. This segment includes firms like Lafarge (east), India Cement (south), Shree Cement (North), Birla Corp (north and east), Binani Cement (north and west) and Madras Cement (south) etc. The third category consists of small companies with marginal presence, constituting the balance capacity of the Indian cement industry. Companies like CCI, J&K Cement, Panyam Cement, Penna Cement etc., fall in this category (Mukhopadhyaya et al, 2012).

As on March 2007, the installed capacity of the cement industry stood at 160 mt but the capacity utilisation was 83 percent. The rise in demand for cement has attracted global majors in India. In a short span of one year (2005-06), four of the top five cement companies of the world entered into India either through mergers or acquisitions or joint ventures or green field projects. These include France's Lafarge, Switzerlands' *Holicm,* Italy's Italcementi and Germany's *Heldelberg* cement. The industry has observed flurry of mergers and acquisitions among domestic players also, bringing smaller players under the umbrella of large players, such as ACC, Gujarat

Ambuja, Grasim Industries, Ultratech and India Cements which in turn have come under the leadership of global players like Lafarge, Holicm, Italcements and Heldelberg. Over the past three years, the share of the top five players in India has increased in each region due to the on-going consolidation in the industry. Now, the top five players share 58 per cent of the market (Kumar, 2013).

India's cement industry retrieved in the following financial year, after displaying the poorest show in a decade during 2010-11, at a sales growth rate of less than 5 per cent,. According to the business standard newspaper (13 January, 2013), with 330Mt/yr-capacity, industry grew by 6.4 per cent against less than 5.5 per cent in the prior financial years. This was better than the cement maker's earlier estimates of 6 per cent. However, later in the year when demand revived, Industry officials and sectors analysts turned positive, with projections of 6.5-7.0 per cent, the industry sold 223 Mt of cement, compared with 209.5 Mt, a rise of 6.2 per cent according to the latest report from the working group on the industry for the 12^{th} Five –year plan 2012-17. India would need overall cement capacity of around 480 Mt/yr. This would mean that the Industry would have to add another 150 Mt/yr. of capacity during the same period. Currently, the top players namely Ultratech cement, ACC Ambuja Cements, Jai Prakash Associates, India Cements and Shree Cement, collectively control more than half of the cement market in the country. There are 40 players in the industry across the country as reported by the business standard (GCM, 2013).

To meet the cement demand, a manufacturing unit requires gypsum, fly ash, water and colossal amount of energy. The wet process requires 0.28 tons of coal and 110 kWh of power to manufacture one tonnes of cement, whereas dry process requires 0.18 tons of coal and 100 kWh of power. The manufacturing of cement has expandedat a compound annual growth rate (CAGR) of 9.7 per cent to reach 272 million tonnes (MT) during FY 06–13.The production capacity is expected to grow to 550 MT by FY 20(Sharma & Tiwari, 2014). India's potential in infrastructure is enormous. The country is expected to become the world's third largest construction market by 2025, adding 11.5 million homes a year to become a US$ 1 trillion a year market, according to a study by Global Construction Perspectives and Oxford Economics. Nevertheless its current position as one of the leaders in cement production, India's riches in the sector remain somewhat untapped. India is among the best cement markets in Asia; according to Switzerland-based cement major Holcim. The company operates in India through group companies, ACC and Ambuja Cements

(Krishna, 2014)**.** The Indian cement sector is expected to witness positive growth in coming years, with demand set to increase at a CAGR of more than 8 per cent during 2013–14 to 2015–16, according to the latest RNCOS report titled, 'Indian Cement Industry Outlook 2016'.After examining the regional trend of cement consumption, the report further discoveredthat the Southern region is creating maximum demand, which is expected to expand in future. The cement industry has been expanding on the back of increasing infrastructure activities and demand from the housing sector over the past many years. According to data released by the Department of Industrial Policy and Promotion (DIPP), cement and gypsum products attracted foreign direct investment (FDI) worth Rs 13,370.32 crore (US$ 2.24 billion) between April 2000 and February 2014**.** (IBEF, April 2014)

Cement is a cyclical commodity with a high correlation with GDP. The housing sector is the biggest demand driver of cement, accounting for about 67 per cent of the total consumption. The other major consumers of cement include infrastructure (13 per cent), commercial construction (11 per cent) and industrial construction (9 per cent). The Indian cement industry grew at a commendable rate in the last decade, registering a compounded growth of about 8 per cent. However, the growth has slowed down in recent years, owing to the sluggishness in the economy. Moreover, the per capita consumption of cement in India still remains substantially poor when compared with the world average. This underlines the tremendous scope for growth in the Indian cement industry in the long term. Cement, being a bulk commodity, is a freight intensive industry and transporting it over long distances would prove it to be uneconomical. This has resulted in cement being largely a regional play with the industry divided into five main regions viz. north, south, west, east and the central region. The Southern region of India has the highest installed capacity, accounting for about one-third of the country's total installed cement capacity. Given the high potential for growth, quite a few foreign transnational companies have ventured into the Indian markets. Already, while companies like Lafarge, Heidelberg and Itali cementi have made a couple of acquisitions, Holcim has increased its stake in domestic companies Ambuja Cements and ACC to over 50 per cent to gain controlling interest. Consolidation has taken place with the top two cement groups controlling nearly one-third of the total domestic capacity. However, the balance capacity still remains quite fragmented (Cement Sector Analysis Report April, 2014).

India is the second largest cement producer in the worldwith nearly 300 million tons of cement production capacity. By 2020, cement production will reach to 550 million tons of the total capacity, 98 per cent lies with the private sector and the rest with public sector. 185 large cement plants together account for 97 per cent of the total installed capacity, while 365 small plants account for the rest of the total 185 large cement plants in India, 77 are located in the states of Andhra Pradesh, Rajasthan and Tamil Nadu. Currently, India has 185 large cement plants spread across all states Andhra Pradesh is the leading state with 37 large cement plants, followed by Rajasthan and Tamil Nadu having 21 and 19 plants, respectively. Cement production increased at a CAGR of 9.7 per cent to 272 million tons over FY06–13.As per the 12th Five Year Plan, production is expected to reach 407 million tons by FY17.Cement production (weight: 2.41 per cent) increased by 6.7 per cent in April, 2014over April, 2013 while its cumulative growth during April to March, 2013-14was 3.0 per cent over the corresponding period of previous year (IBEF, March 2014).

The Indian cement industry has some multinational cement giants, like Holcim and Lafarge, which have interests such as ACC, Ambuja Cement and Lafarge Birla Cement, the Indian cement industry is broadly home-grown. Ultratech Cement which is regarded as the country's largest firm in terms of cement capacity, holds around 22 per cent of the domestic market, with ACC (50 per cent owned by Holcim) and Ambuja (50 per cent owned by Holcim) having 15 per cent and 13 per cent shares respectively. Many of the remaining dozen top players are Indian and are (in order of diminishing market share); Jaiprakash Associates (10 per cent), The India Cements Ltd (7 per cent), Shree Cements (6 per cent), Century Textiles and Industries (5 per cent), Madras Cements (5 per cent), Lafarge (5 per cent), Birla Cement (4 per cent) and Binani Cement (4 per cent).Between them the top 12 cement firms have around 70per cent of the domestic market. Around 100 smaller players produce and grind cement on a wide range of scales but are often confined to small areas (Patil & Sawant, 2014). Between 2006 and 2011 inclusive, cement consumption in India was dominated by residential real-estate construction to the tune of 63 per cent. The second largest type of use over the period was infrastructure, which accounted for 20 per cent of all cement used, followed by commercial real-estate construction (13 per cent) and industrial construction 4 per cent (Edwards, 2013).

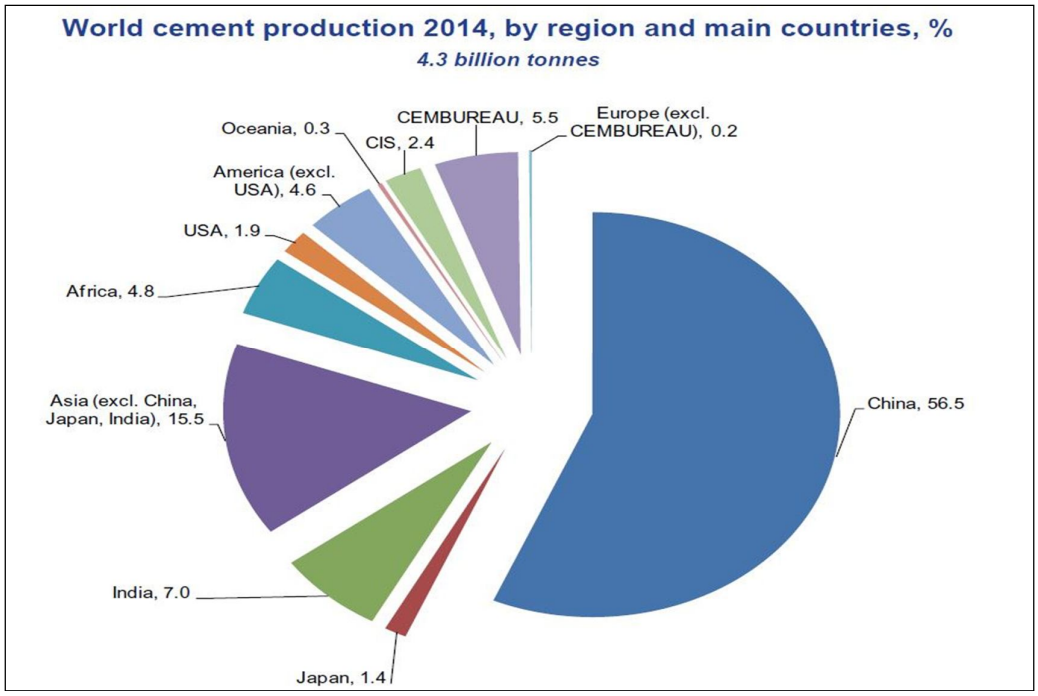
The cement industry is energy intensive and thus power costs form the most critical cost component in cement manufacturing, of about 35 per cent to total cost of

production. The issues here is the technology used (dry versus wet process), fuel efficiency (efficient use of coal/lignite/another material used for burning) and power efficiency (power availability, use of alternative fuels, unit power consumption, cost and availability of captive power). The scope for cost reduction through better energy efficiency may now be limited for better performing companies since they have already reached the best feasible levels. One more characteristic of the industry is the capital intensiveness. Since the capital intensity of a new cement project is high, access to capital has become a significant entry barrier. The cost of a new cement plant can be equivalent to about 3 years of revenue (WBCSD, 2002)

Another distinguishing characteristic comes from it being cyclical in nature as the market and consumption is closely linked to the economic and climatic cycles. In India, cement production normally peaks in the month of March while it is at its lowest in the month of August and September. The cyclical nature of this industry has meant that only large players are able to withstand the downturn in demand due to their economies of scale, operational efficiencies, centrally controlled distribution systems and geographical diversification. Lastly, it is worth mentioning that cement industry has a significant role in the climate change debate and issue of sustainable development. The cement industry produces 5 per cent of global man-made carbon dioxide, a major gas contributing to climate change (WBCSD, 2005). In short, the main environmental challenges facing the cement manufacturing industry are, releases to air of oxides of nitrogen, sulphur dioxide, particulates and carbon dioxide, use of resources, especially primary raw materials and fossil fuel and generation of waste.

There are, at present, seven clusters, where Satna (Madhya Pradesh) cluster is the leader in capacity as well as production. Others are Chandrapur (North Andhra Pradesh and Maharashtra), Gulbarga (North Karnataka and East AP), Chanderia (South Rajasthan, Jawad and Neemuch in MP), Bilaspur (Chattisgarh), Yerraguntla (South AP), and Nalgonda (Central AP) (Burange&Yamini, 2009).

Figure 3.1: Contribution of Indian Cement Industry in World Cement Production



Source: *Cembureau, 2014*

The above Figure presents the production of cement by different countries and regions in 2014.

Figure 3.1 shows the share of top countries and regions in world in terms of cement production in 2014. The countries like China, India, USA and Japan are the top cement producers in world in 2014. The China is on top of the list in cement production with 56.5 per cent of total cement production and covers major share in world cement production. India is second largest producer of cement with the share of 7.0 per cent in 2014. Annual cement production for Asia (excl. china, India and Japan) was 15 per cent in 2014, whereas the Africa and America (excl. USA) produced 4.8 per cent and 4.6 per cent of total cement production in 2014, respectively. The CEMBUREAU contribute 5.5 per cent in world cement production.

3.2 ROLE OF CEMENT INDUSTRY IN INDIAN ECONOMY

The economic development strategy chosen by India after the Second World War was very identical to China's industrialization and the dominance of the state in the economy. Development was regarded synonymous with industrialization and industry was concentrating mainly on basic goods like steel and machinery. Private capital was

not seen as an effective measure for development and it was assumed to have a inclination towards monopolization. Because of that, state control was considered to be effective. The chosen development strategy was one of import substitution. Development policies included licensing of industrial activity, the reservation of key areas for state activity, controls over foreign direct investment and interventions in the labor market (Kaplinsky, 1997).

The Indian cement industry is the second largest producer of quality cement in the world preceded only by China. Indian Cement Industry is engaged in the production of several varieties of cement such as Ordinary Portland Cement (OPC), Portland Pozzolana Cement (PPC), Portland Blast Furnace Slag Cement (PBFS), Oil Well Cement, Rapid Hardening Portland Cement, Sulphate Resisting Portland Cement, White Cement, etc. They are produced strictly as per the Bureau of Indian Standards (BIS) specifications and their quality is comparable with the best in the world.

The industry occupies an important place in the national economy because of its strong linkages to other sectors such as construction, transportation, coal and power. The cement industry is also one of the major contributors to the exchequer by way of indirect taxes.

Key Drivers of Cement Industry

- Real Estate Market
- Infrastructure Spending
- Various Governmental programs like National Rural Employment Guarantee
- Low-cost housing in urban and rural areas under schemes like Jawaharlal Nehru National Urban Renewal Mission (JNNURM) and Indira Aawas Yojana
- New Township Development

The overall performance of cement market during the period, April 2013 to March 2014, was poor due to certainreasons. The major reason among them was non release of Government funds and no new major projects came in for execution. Construction activities lagged behind private sector as there has been a ban on sand mining. The real estate, especially in Mumbai and Pune, which was vibrant in previous years, is now witnessing stagnation and the last quarter saw the implementation of Code of

Conduct for the LokSabha Election. The funds which were released in March normally were absent. Hence, the economy of the country came to a grinding halt.

The economy of India is the tenth largest in the world by nominal GDP and the third largest by Purchasing Power Parity (PPP). The country is one of the G-20 major economies, a member of BRICS and a developing economy that is among the top 20 global traders according to the WTO (WTO, 2013). India was the 19th-largest merchandise and the 6th largest services exporter in the world in 2013. It imported a total of $616.7 billion worth of merchandise and services in 2013, as the 12th-largest merchandise and 7th largest services importer (WTO Press Release, 2014). India's economic growth slowed to 4.7 per cent in 2013–14, in contrast to higher economic growth rates in 2000s. IMF projects India's GDP to grow at 5.4 per cent over 2014-15. In the Indian economy, Agriculture sector is the largest employer in India's economy but contributes a declining share of GDP 13.7 per cent in 2012-13 (The Economic Times, 2014). The manufacturing industry has held a constant share in economic contribution, while the fastest-growing part of the economy has been its services sector which includes construction, telecom, software and information technologies, infrastructure, tourism, education, health care, travel, trade, banking and others components of its economy (Indian Fiscal Budget 2014).

Economic development of any nation totally depends upon its industries. Industries play a significant role in the Indian Economy. Without industries, economic development is impossible. A growing industrial sector is crucial to greater economic development and takes in a number of areas as a country expands. Steady industrial growth helps to compliment and sustain continued economic development. A well-developed industrial sector, covering various different areas, is vital to the economic development of a country. With a variety of different industrial sectors that feed off each other, a well balanced industrial sector is at the centre of economic development. With a strong industrial base, economic planning becomes less risky, being able to plan ahead also assists industrial growth with profits re-invested into infrastructure development which in turn helps to boost and attract industry. In a developing economy like India, industries are indispensable. Development of industries is not only indispensable for India, but there is also a good scope for the development of industries in India. India has many favorable factors for the development of industries (Khuba, 2013).

According to the World Bank, India's industrial manufacturing GDP output in 2012 was 10th largest in the world on current US dollar basis ($239.5 billion**)** and 9th largest on inflation adjusted constant 2005 US dollar basis ($197.1 billion) (United Nations Statistics Division, 2013). The Indian industrial sector underwent significant changes as a result of the economic liberalization in India in 1991, which removed import restrictions, brought in foreign competition, led to the privatization of certain government owned public sector industries, liberalized the FDI regime, improved infrastructure and led to an expansion in the production of fast moving consumer goods. Post-liberalization, the Indian private sector faced increasing domestic as well as foreign competition, including the threat of cheaper Chinese imports. It has since handled the change by squeezing costs, revamping management and relying on cheap labor and new technology. However, this has also reduced employment generation even by smaller manufacturers, who earlier relied on relatively labor intensive processes.

The cement industry in India, after being delicensed in 1991, has shown remarkable growth. India has emerged as the second largest country in the world after China in the production of cement. Cement is a basic construction material in housing, infrastructure and large projects for social development like irrigation dams, hospitals, roads, etc. It has become synonymous with construction. Per capita consumption of cement is accepted as an important index of the country's economic growth. In terms of quality, technology, productivity and efficiency, India compares well with the best in the world. The Indian cement industry plays a key role in the national economy for generating substantial revenue for State and Central Governments as well as employment. Cement is the basic building material in India and is used extensively in urban housing, industrial sector and developing infrastructure (Indian Minerals Yearbook, 2011).

The Role of Cement Industry in India GDP is significant in the economic development of the country.The Cement industry is one of the major and oldest manufacturing industries in the modern sector of the Indian economy. It is both a basic and consumer industry which produces a commodity that enters into various construction, investment and welfare activities in almost every segment of an economy. Its product required by firms, factories and households and for construction of dams, highways and bridges etc. Its contribution to the development of modern civilization is evidenced by the innumerable ways in which its product is being used

from massive dams and towering sky-scrappers to dainty gardens walks and shimmering fountains. It is thus a vital industry which assumes a crucial part in the economic growth and development of a country, thus it is regarded as a major nation building industry, whose importance in a developing economy can never be over emphasized, therefore ,with the ushering in the era of planned economy development in India , cement industry has been assigned important role and has been accorded a pride place in the scheme of priorities for development of industries (Das, 1987).

Cement industry, which has a direct co-relation of 1.1 to 1.2 with GDP, plays a pivotal role in the infrastructure development of the country. Buoyed with various infrastructure policies and schemes of the government, particularly after 1982 (partial decontrol) of cement, this industry had added substantial cement capacities year after-year, much ahead of the actual cement demand taking place. However, the overall slowdown in the economy at 6.5 per cent in FY12, the cement industry has recently been criticized and also harshly penalized for under-utilizing the cement capacity, without appreciating the ground realities and the factors which have contributed to reduced capacity utilization. Today, because of the huge mismatch between demand and supply of cement, the country is having about 93 million tonnes of excess cement capacity created after making colossal investments. To revive the economy from its present slackening mode, it is now imperative for the government to enhance cement demand by taking some positive and concrete policy measures (Indian Cement Review august 2012).

It is a cyclical commodity of a high correlation with GDP. The housing sector is the biggest demand driver of cement, accounting for about 67 per cent of the total consumption. The other major consumers of cement include infrastructure at 13 per cent, commercial construction at 11 per cent and industrial construction at 9 per cent. The Government of India's keen focus on the development of infrastructure in the country has given a big boost to the cement industry in India. In its 12th Five Year Plan, the government plans to increase investment in infrastructure to the tune of US$ 1 trillion and increase the industry's capacity to 150 MT (IBEFAUG 2014).

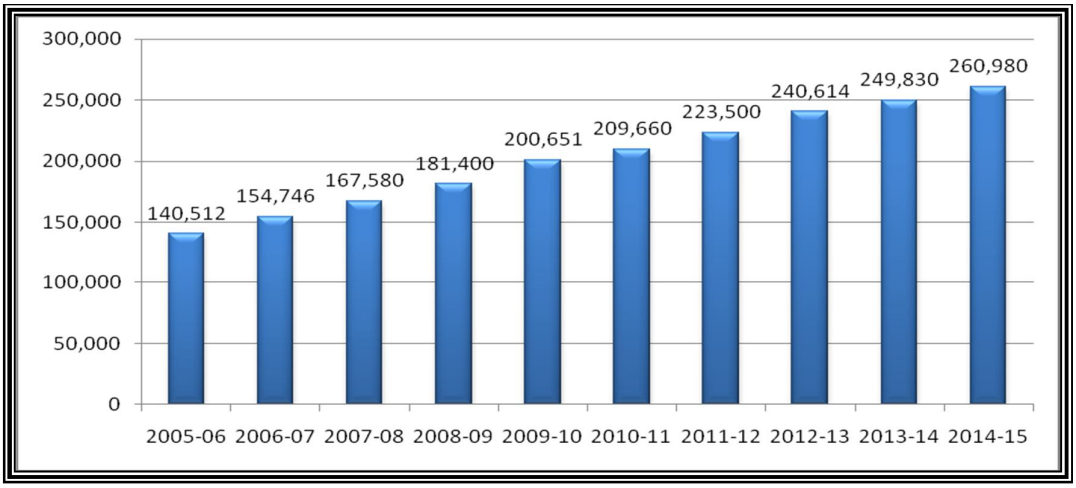
The Planning Commission of India estimates total infrastructure spending to be about 10 per cent of the GDP during the 12th Five-Year Plan (2012–17), up from 7.6 per cent during the previous five-year plan (2007–12)(IBEF,2013). The cement and gypsum products sector has attracted foreign direct investments (FDI) worth US$

2,909.15million, between April 2000 to November 2012, according to the data published by the Department of Industrial Policy and Promotion (DIPP, 2014).

3.3 PERFORMANCE OF CEMENT INDUSTRY OF INDIA

Cement industry play a vital role in the socio-economic development of the nation. It is one of the vital components for infrastructural facilities and public welfare constructions. The performance of Indian cement industry has been presented in the form of graphs which are described below:

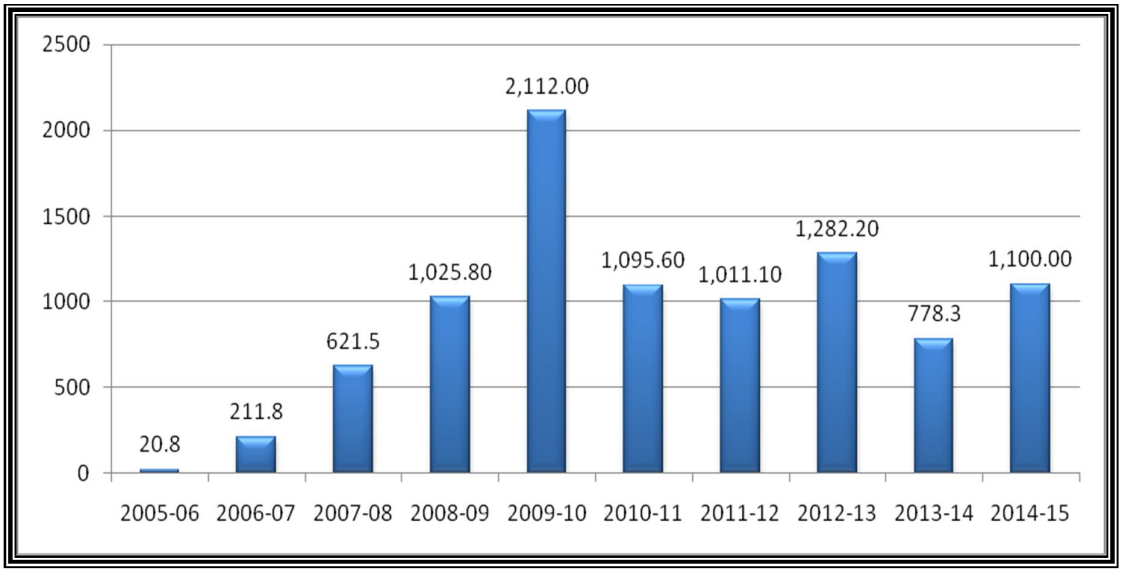
Figure 3.2: Production of Cement Industry of India



Source: *Industry Outlook, CMIE Database*

The above Figure 3.2 *(see Appendix 1, Table 1a)* indicates the production of cement in India for the period from 2005-06 to 2013-14.The production of cement was in an increasing trend through out the study period as it was 140,512 tonnes in 2005-06 which increased to 167,580 tonnes in 2007-08.In 2008-09, it was 181400 tonnes and reached to 200,651 tonnes in 2009-10.In 2010-11, production of cement slightly increased to 209,660 tones. Further, during the remaining years, it seems that the production level of cement has increased considerably and reached to 240,614 tonnes in 2012-13 which finally stood at 260,980 tonnes in 2014-15.

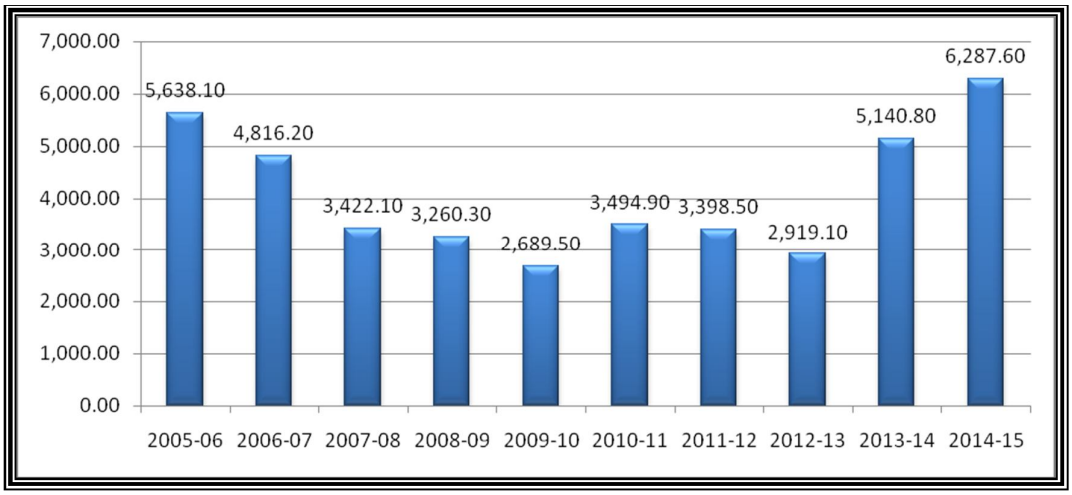
Figure 3.3: Imports of Cement by India



Source: *Industry Outlook, CMIE Database*

The above Figure 3.3 *(see Appendix 1, Table 1c)* represents the import trend of cement from 2005-06 to 2014-15.The imports of cement was very low during the initial year of the study. It was 20.80 tonnes in 2005-06, which increased and reached to211.80 tonnes in 2006-07. From 2007-08, the import of cement followed an increasing trend and reached at maximum import of 2112 tonnes in 2009-10.Further, it shows amixed trend of import during remaining years of study period and stood at 677.80 tonnes in 2013-14.Finally, in last year of the study 2014-15, the import of cement again increased and reached to 1100 tonnes.

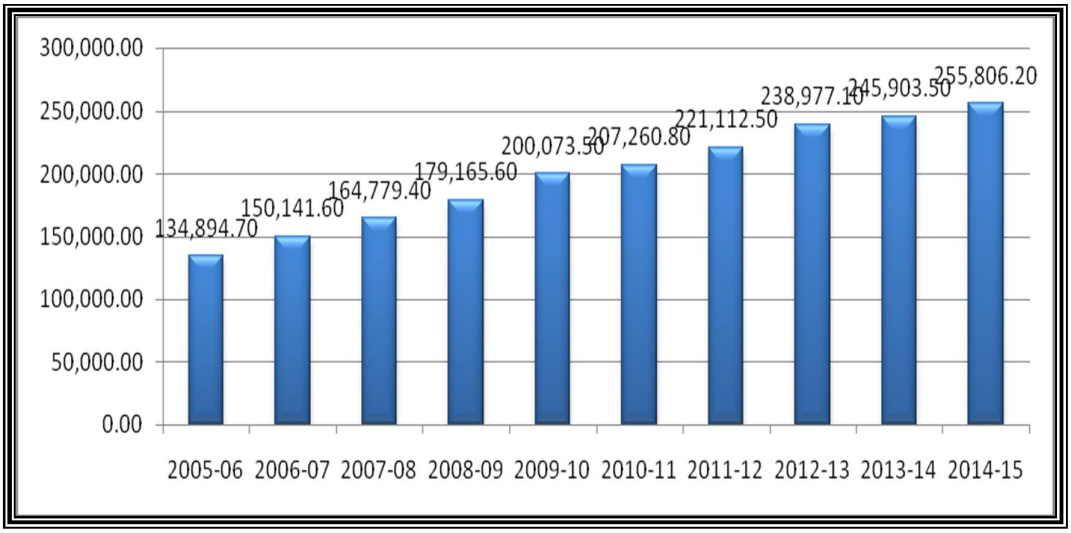
Figure 3.4: Exports of Cement by India



Source: *Industry Outlook, CMIE Database*

The above Figure 3.4 *(see Appendix 1, Table 1d)* indicates the exports trend of cement from 2004-05 to 2014-15. The export of the cement has been in fluctuating trendduring the study period due the economic crises in the international market. It was 6,864.50 tonnes in 2004-05 which declined steaply and stood at 2689.50 tonnes in 2008-09.Further, it increaesd to 6,287.60 tonnes in 2014-15.

Figure 3.5: Consumption of Cement in India



Source: *Industry Outlook, CMIE Database*

The above Figure 3.5 *(see Appendix 1, Table 1b)* shows the consumption of cement in India from 2005-06 to 2014-15. Cement consumption in India has been in an increasing trend during the study period as it was 134,894 tonnes in 2005-06 which increased to 164,779 tonnes in 2007-08 and reached to 200,073 tonnes in 2009-10.In 2011-12, it was 221,112 tonnes and finally stood at 260,980 in 2014-15.

3.4 MAJOR PLAYERS OF CEMENT INDUSTRY IN INDIA

Ultratech Cement

Ultratech cement is one of the India's biggest cementcompanies and India's largest exporter of cement clinker based in Mumbai, India. The company is a division of Grasim Industries. It has an annual capacity of 48.75 million tonnes as on 31st October 2012 (DIPP, n.d.). UltraTech's inception can be traced back to the mid-1980s with the establishment of Grasim's first cement plant at Jawad in Madhya Pradesh. In 2001, with the objective of making it reachable, Grasim acquired a stake in L&T Cement Ltd. The stake was further increased to a majority stake in 2003 thereby giving Grasim a pan-India presence and an increased market share. In 2004, the

demerger of L&T's cement business was completed and Grasim acquired a controlling stake in L&T Cement Ltd and the name was subsequently turnedinto UltraTech cement. The cement business of Grasim was demerged and vested in Samruddhi Cement Limited in May 2010, with Samruddhi Cement Limited consequently being amalgamated with UltraTech Cement Limited in July 2010. In September 2010, UltraTech Cement Middle East Investments Limited, a wholly owned subsidiary of UltraTech Cement acquired management control of ETA Star Cement Company, along with its operations in the UAE, Bahrain and Bangladesh, thereby putting UltraTech on the global map.Today, in this globeUltraTech Cement is amongst the top cement producers. It has a diverse presence across the globe. The company has eleven composite plants, one white cement plant, one wall care putty plant and one clinkerisation plant, which are located in UAE. Furthermore, UltraTech has 15 grinding units across the world: 11 in India, 2 in UAE and 1 each in Bahrain and Bangladesh. It also has 6 bulk terminals (5 in India and 1 in Sri Lanka). UltraTech has 101 concrete plants across 35 locations in India.UltraTech Cement is considered as the most unique brand in its category. The consumer perception of UltraTech is built around the attributes of 'modernity', 'quality' and 'technological superiority'. Based on these defining attributes, the brand is regarded as the expert for all construction needs. UltraTech has been recently bestowed with the title of consumer validated 'Superbrand' by the Superbrands Council and consumer selected 'Powerbrand' by Powerbrands India (Utlratech overview, n.d)

ACC Cement

ACC was settled on August 1, 1936when 10 existing cement companies came together under one umbrella in a historic merger of the cement industry. These companies were belonged to four prominent business groups - Tatas, Khataus, Killick Nixon and FE Dinshaw groups. ACC's registered office was situated at Mumbai (ACC Corporate Profile, n.d). ACC (ACC Limited) is India's foremost manufacturer of cement and concrete. ACC's operations are widespread throughout the country with 17 modern cement factories, more than 40 Ready mix concrete plants, 21 sales offices, and several zonal offices. It has a workforce of about 9,000 persons and a countrywide distribution network of over 9,000 dealers. ACC has a unique track record of innovative research, product development and specialized consultancy services. The company's various manufacturing units are backed by a central technology support services centre - the only one of its kind in the Indian cement

industry. Being the largest user of limestone, ACC has a rich experience in mining. As the one of the largest cement producer in India, it is also the biggest customers of domestic coal industry, of Indian Railways, and a considerable user of the country's road transport network services for inward and outward movement of materials and products. Among the first companies in India to include commitment to environmental protection as one of its corporate objectives, the company installed sophisticated pollution control equipment as far back as 1966, long before pollution control laws came into existence. Today each of its cement plants has state-of-the art pollution control equipment and devices. ACC plants, mines and townships visibly demonstrate successful endeavours in quarry rehabilitation, water management techniques and 'greening' activities. The company actively promotes the use of alternative fuels and raw materials and offers total solutions for waste management including testing, suggestions for reuse, recycling and co-processing. ACC has taken purposeful steps in knowledge building. We run two institutes that offer professional technical courses for engineering graduates and diploma holders which are relevant to manufacturing sectors such as cement. The main beneficiaries are youth from remote and backward areas of the country.ACC has made significant contributions to the nation building process by way of quality products, services and sharing expertise. Its commitment to sustainable development, its high ethical standards in business dealings and its on-going efforts in community welfare programmes have won it acclaim as a responsible corporate citizen. ACC's brand name is synonymous with cement and enjoys a high level of equity in the Indian market. It is the only cement company that figures in the list of Consumer Super Brands of India (ACC Company Profile, n.d).

Ambuja Cement Ltd

Ambuja Cements Ltd is a part of a global conglomerate Holcim, is the India's leading cement manufacturers and has also completed over 25 years of operations. The cement industry is literally the building block of nation. In that context Ambuja plays a key role in India's development and its blueprint for the future. It has always stayed on the fast track to growth and has gone on to become a major player in the country's cement sector. The company, initially called Gujarat Ambuja Cements Ltd, was founded by Narotam Sekhsaria in 1983 in partnership with Suresh Neotia. Global cement major Holcim acquired management control of Ambuja in 2006. The Company has also made strategic investments in ACC Limited. Ambuja Cement is a

well established brand in India for Ordinary Portland Cement (OPC) and Pozzolana Portland Cement (PPC), with significant footprints across western, eastern and northern markets of India. Our customers range from individuals' house builders (IHB) to governments to global construction firms. Over the past decade, Ambuja has grown dynamically. Its current cement capacity is 27.25 million tons. The Company has five integrated cement manufacturing plants and eight cement grinding units across the country. It is also the first Indian cement manufacturer to build a captive port with three terminals along the country's western coastline to facilitate timely, cost effective and environmentally cleaner shipments of bulk cement to its customers. The Company also owns fleet of ships. Today, the Company has established itself as one of the most efficient cement manufacturers in the world. Its environment protection measures are on par with the finest in the country. It is one of the most profitable and innovative cement companies in India. The Company has also pioneered the development of multiple bio-mass co-fired technologies for generating greener power in its captive plants. The Company's most distinctive attribute is its approach to business. Ambuja follows a unique home grown philosophy called I CAN, that provides the authority to people to set their own targets and the freedom to achieve their goals. Its focus has been consistent on two major building blocks that are resonated through its daily operations i.e. Quality of the product and Safety of the human resources involved in the creation of the product (Company profile, n.d).

Jaypee Group

Jaypee group is the 3rd largest cement producer in the country. The groups cement facilities are located in the Satna Cluster (M.P.), which has one of the highest cement production growth rates in India. The group produces special blend of Portland Pozzolana Cement under the brand name 'Jaypee Cement' (PPC). Its cement division currently operates modern, computerized process control cement plants with an aggregate capacity of (commissioned/under commissioned) 28.80 MTPA in FY' 12. The company is among the capacity expansion of its cement business in Northern, Southern, Central, Eastern and Western parts of the country and has achieved 41.40 MTPA in total cement capacity (commissioned/under commissioned) in FY' 13 with Captive Thermal Power plants totaling 672 MW. Keeping pace with the advancements in the IT industry, all the 260 cement dumps are networked using TDM/TDMA VSATs along with a dedicated hub to provide 24/7 connectivity between the plants and all the 120 points of cement distribution in order to ensure

"track – the – truck" initiative and provide seamless integration. This initiative is the first of its kind in the cement industry in India. In the near future, the group plans to enlarge its cement capacities via acquisition and Greenfield additions to grow economies of scale and build on vision to focus on large size plants from inception. The Group is committed towards the safety and health of employees and the public (Jaypee Cement, n.d).

India Cements

In 1946, when the Second World War was over and political freedom was round the corner, the India Cements Ltd. began its humble moorings in the form of a cement factory at Talaiyuthu, an almost unmapped tiny hamlet in Tirunelveli district, Tamil Nadu. As one of the oldest Indian corporates, established in 1946, the company set up its first plant in 1949 at Sankarnagar (Talaiyuthu). The India Cements Ltd. is indeed a pioneer enterprise during the post-independence era to become a public limited company. India cements Ltd was discovered in the year 1946 by two men, Shri S.N. N. Sankaralinga Iyer and Sri T. S. Narayanaswami. From a two plant company having a capacity of just 1.3 million tonnes in 1989, the company has robustly grown in the last two decades to a total capacity of 15.5 million tonnes per annum. It has 7 integrated cement plants in Tamil Nadu and Andhra Pradesh, one in Rajasthan (through its subsidiary, Trinetra Cement Ltd) and two grinding units, one each in Tamil Naidu and Maharashtra. While retaining cement over the years as its mainstay, India Cements has ventured into related fields like shipping, captive power and coals mining that have purposeful synergy to the core business. This also stemmed from the company's strategy of emerging as an integrated plan.

The present chapter gives an overview of Indian cement industry. The next chapter discusses about the profile of Cement Corporation of India limited.

REFERENCES

About us heritage, (n.d). *ACC Limited.* Retrieved from: http://www.Acclimated .com/newsite/heritage.asp retrieved on 26june, 2014

Burange, L.G., & Yamini, S. (2009). Performance of the Indian Cement Industry: The Competitive Landscape. *Artha Vijnana*, *51*(3), 209.

C.L.I, (2009). *India Business Yearbook*. New Delhi: Vikas Publishing House Pvt Limited, 100-101. retrieved from https://books.google.co.in/books? id=JKrQOAK QX60C

Cembureau. (2014). *Activity report.* Rretrieved fromhttp://www.cembureau.eu /sites/default/files/Activity%20Report%202014_website_1.pdf

Cement industry in India (2014). Retrieved from http://www.ibef.org/industry /cement-india.aspx

Cement industry in India. (2014). *Indian brand equity foundation*.Retrieved from http://www.ibef.org/industry/cement-india.aspx

Cement Sector Analysis Report (2014). Retrieved from http://www.equitymaster. com/research-it/sector-info/cement/Cement-Sector-Analysis-Report.asp

Cement Sector Analysis Report. (2014). Retrieved from http://www.equitymaster.com/research-it/sector-info/cement/Cement-Sector-Analysis-Report.asp

Company profile, (n.d). *Ambuja cement.* Retrieved from http://www.ambuja cement.com/about-us/comp-profile/

Company profile. (n.d). *India Cements.* Retrieved from: http://www.indiacements .co.in/company-profile.html

Corporate Profile, (n.d). *ACC Limited.* Retrieved from: http://www.acclimited. Com/newsite/corprofile.asp

DIPP, (2014). *Fact sheet on foreign direct investment (FDI)*. Retrieved from http://dipp.nic.in/English/Publications/FDI_Statistics/2014/india_FDI_April20 14.pdf

Economy of India , (n.d.). *In Wikipedia.* Retrieved from: http://en.wikipedia.Org/wiki /Economy_of_India#cite_note-ibnic1213-6

Edwards, P. (2013). The incredible Indian cement industry, *Global Cement Magazine*, Retrieved from: http://www.globalcement.com/magazine/articles/752-the-incredible-indian-cement-industry

Francis, A. J. (1977). *The cement industry (1796-1914): A history*. North Pomfret, Vt: David & Charles, Newton Abbot. Retrieved from http://trove.nla.gov.au/version/13482420

Global cement magazine. (2013). *Alternative fuels: providing growth and sustainability*. Retrieved from http://www.Globalcement.com/pdf/eggFeb13ns.pdf

Government of India. (2014). *Index of Eight Core Industries (Base: 2004-05=100)*.Ministry of Commerce & Industry Office of the Economic Adviser.

Hewlett, P. (2003). *Lea's Chemistry of Cement and Concrete*. Elsevier Science .Rretrieved from https://books.google.co.in/books?id=v1JVu4iifnMC

Indian Cement Review. (2012). *Emerging trends & challenges in Indian cement industry*. Indian Cement Review Magazine.

India's Fiscal Budget (2013).*India's Fiscal Budget, Government of India*. Retrieved from: http://indiabudget.nic.in/es2012-13/echap-10.pdf

Jain, T. R., & Khanna, O. P. (2010). *Development Problems and Policies*. New Delhi: Vimla Kumari Jain.

Jain, T. R., Tehran, M., & Tehran, R. (2009). *Growth and problems of major industries.Indian Economy*. New Delhi: Vimla Kumari Jain.

Jaypee Cement, (n.d). *Jaypee Group*. Retrieved from http://www.Jalindia.com/cement.html

Kaplinsky, R. (1997). India's industrial development: An interpretative survey. *World development,25*(5), 681-694.

Khuba, S. C. (2013). Industrial development of Maharashtra. *Indian Streams Research Journal, 3*(1).Retrieved from: www.isrj.net

Kumar, B. D. (1987).*Cement Industry of India,* New Delhi: APH Publishing. Retrieved from http://books.google.co.in/books?id=zEwuXhKaU6oC&printsec=frontcover&source=gbsvptbuy&hl=en#v=onepage&q=indian%20economy&f=false

Kumar, P. K., John, S. F., & Senith, S. (2013). A Study on the Progress of Indian Cement Industry.*British Journal of Marketing Studies, 1*(1), 1–15. Retrieved from http://www.eajournals.org/wp-content/uploads/a-study-on-the-progress-of-indian.pdf

Low, S. P. and Tan, O. B. (1993).*The Global Cement Industry,* Singapore University Press, National University of Singapore.Retrieved from https: //books .google.co.in /books? id= a8uO r3i77FQC

Mukhopadhyaya, J. N., Roy, M. & Raychaudhuri, A. (2012). An Analytical Study of the Changing Structure in the Cement Industry of India. *Indore Management Journal, 4*(1), 11-23. Retrieved from http://www.imidr.ac.in/iimi/ images /IMJ/V olume4_Issue1/An%20Analytical%20 Study%2 0of%2 0the%20C mhanging.pdf

Overview Ultratech, (n.d). *Ultratech cement.* Retrieved from http://www. Ultratechcement.com/about-ultratech-cement-ltd

Patil, M. R. & Sawant, P. (2014). Corporate social responsibility, performance and sustainability reporting of Shree cement company in India: A case study. *Abhinav International Monthly Refereed Journal of Research in Management &Technology, 3(*4). Retrieved from http://abhinavjournal.com/journal/index. php/ISSN-2320-0073/article/view/210

Role of Cement Industry in India GDP business maps of India. Retrieved from http://business.mapsofindia.com/india-gdp/industries/cement.html

Sharma, L. M., & Tiwari, S. (2014). Resource Constraints: A Major Impediment for Infrastructure Growth. *International Journal of Advanced Technology in Engineering and Science*, *4*(2), 199–205. Retrieved from http://wwwijates.com/images/short_pdf/ 1403531661_P199-205.pdf

Sharma, S. (2008). Analyzing the technical and scale efficiency performance: A Case study of cement firms in India. *Journal of Advances in Management Research*, *5*(II), 56-63. doi:10.1108/09727980810949133

Siddeshwara, G. M. (2013). Cement Plants, *Report on Ministry of Commerce And Industry Department Of Industrial Policy And Promotion*. Retrieved from http://dipp.nic.in/English/questions/09122013/lu484.pdf

Sriya, A. K. & Krishna, M. P, (2014). Status of Provisions of the Factories Act, 1948 - A study at Penna Cement Industries Limited (PCIL), Tadipatri. *Journal of Business and Management, 16*(3), 14-26. Retrieved from http://iosrjournals. org/iosr-jbm/papers/Vol16-issue3/Version-1/C016311426.pdf

Suseela, P. & Maruthamuthu, K. (2014). Scenario of Indian cement sector. *Indian Streams Research Journal, 4*(5). Retrieved from http://www.isrj.net/Uploaded Data/4765.pdf

Tharumar, P. (2010). *Evolution of industries in Tirunelveli district (1947-1997).* Doctoral Thesis, Department of History Manonmaniam Sundaranar University, Tirunelveli. 21-39, Retrieved fromhttp://shodhganga.inflibnet. ac.in/bitstream/10603/670/8/08_chapter%201.pdfhttp://trove.nla.gov.au/versio n/13482 420Ch2

The Economic Times (2014). Projects India's GDP to pick up in 2015 to 6.4 per cent. *World Economic Outlook, The economic times*. Retrieved from http://articl es.economictimes.indiatimes.com/2014-1008/news/54784688_1_imf-projects-india-weo-world-economic-outlook?intenttarget=no

United Nations Statistics Division (2013). *GDP and its breakdown at current prices in US Dollars,* United Nations. Retrieved from http://unstats.un.org/un sd/snaama/dnlList.asp

United Nations Statistics Division, (2013). *GDP and its breakdown at constant 2005 prices in US Dollars.*United Nations. Retrieved from http://unstats.un.org/ un sd/snaama/dnlList.asp

Varma, B. P. & Sirisha, K., (2013).Study of processing and machinery in cement industry.*International Journal of Engineering and Innovative Technology, 3*(5), 385-392. Retrieved from http://ijeit.com/Vol%203/Issue% 205/IJEIT1412201311_ 64.pdf

W.T.O, (2013). *World Trade Report 2013,* Geneva. Retrieved from http://www .wto.org/english/res_e/booksp_e/world_trade_report13_e.pdf

World Business Council for Sustainable Development (2002), *The cement sustainability initiative: our agenda for action.* WBCSD, Geneva, Switzerland.

World Business Council for Sustainable Development (2005), *The cement sustainability initiative: CO2 accounting and reporting standard for the cement industry*. WBCSD, Geneva, Switzerland.

WTO, (2014). *Modest trade growth anticipated for 2014 and 2015 following two year slump*.World Trade Organization Press Release. Retrieved from http://www.wto.org/english/news_e/ pres14_e/pr 721_e.htm

Chapter – 4

Profile of Cement Corporation of India Limited

4.0 INTRODUCTION

The last chapter gives an overview of Indian cement industry. The present Chapter, profile of Cement Corporation of India Limited has been discussed in detail.

Central and State Public Sector Undertakings (PSUs) play a prominent role in India's industrialization and economic development. Since independence, various socio-economic problems needed to be dealt with in a planned and systematic manner. A predominantly agrarian economy, a weak industrial base, low savings, inadequate investments and lack of industrial facilities called for state intervention to use the public sector as an instrument to steer the country's underlying potential towards self reliant economic growth. The macroeconomic objectives of Central PSUs have been derived from the Industrial Policy Resolutions and the Five Year Plans. State-level public sectors enterprises (State PSUs) were established because of the rising need for public utilities in the states. These PSUs operated in public utilities such as railways, post and telegraph offices, airports, power and cement contributed significantly towards infrastructure development in India. Since its inception during the First Five Year Plan, many public sector undertakings performed exceptionally well in wealth creation for the country. Therefore, Cement is a critical ingredient for augmenting growth and development of our economy and advancement of the country as a whole. However, our national leadership accorded due importance to the manufacture of adequate cement right since our independence. Within the scheme of mixed economy conceived to rebuild and modernise India, the public Sector was assigned crucial responsibility to provide leadership in the sphere of cement production.

4.1 CEMENT CORPORATION OF INDIA LIMITED

4.1.1 Evolution and Growth

Cement Corporation of India Limited (CCI) was incorporated as a Company wholly owned by Government of India on 18th January 1965 with the principal objective of achieving self sufficiency in cement production. Implementing third five year plan was a step to achieve that grand objective. Later, during 1970 and 1990, eleven

cement plants were set up by the CCI Ltd. in socially and economically backward regions of our country to produce enough cement for meeting the growing demand in the market for this "developmental commodity (Standing committee on Revival and restructuring of CCI Ltd., 2011). The authorised and paid-up capital of the company as on 31.3.2015 was Rs. 900 crores and Rs. 811.41 crores, respectively. At present, CCI Ltd. is a multi-unit organisation having ten units spread over eight states with a total annual installed capacity of 38.98 Lacs MT. All Factories, Zonal Offices and Corporate Office at Delhi are inter-connected through Internet. In line with the advancement in cement technology, CCI Ltd. had been adopting the latest one with one million tonne plants at Tandur and Nayagaon with a strong work-force of 907 employees (as on 31.03.2012) has always encouraged balanced regional growth with most of its factories located in underdeveloped/backward areas. CCI Ltd. has also been contributing to the development of areas around factories by adopting nearby villages and providing the basic facilities like school, health center, drinking water etc., for maintaining the ecological balance, CCI Ltd. is launching massive tree plantation drives from time to time at all units and in surrounding areas (Profile of CCI Ltd., n.d). The total installed capacity of all the plants was 42.48 Lacs MT which is less than 2% of total installed capacity of India. However, the installed cement capacity of three operating plants is 14.46 Lacs MT and in contrast the installed capacity of 7 non-operating plants stands at Lacs MT. The authorized share capital of the CCI Ltd. is Rs.900 crore, whereas its net worth as on 31 March 2010 is (-) Rs.213.61 crore and its net profit during 2009-10 is Rs. 52.75 crore. In spite of incurring heavy losses for several years, it generated profit during 2006 and 2010 which was a positive sign. Its manpower as per the presentation made before the Committee in Guwahati stands at 1037 as on 30 September 2010 with 117 Executives, 174 supervisors and 746 workers. The figures for productivity per employee are going up from 4 600 MT during 2005-06 to 898 during 2009-10. (Standing committee on Revival and restructuring of CCI Ltd., 2011).

Over the years the mounting losses sharply eroded its net worth. By the middle of 1990s, the CCI Ltd. suffered accumulated losses to the tune of Rs. 527.16 crores, that staggering amount was more than it's paid up capital of Rs. 406.74 crore and reserves worth Rs. 0.99 crore. The collapse of the net worth sounded alarm bell to safeguard the very survival and commercial viability of the Corporation. It graduated

from a loss making Corporation to a sick industrial undertaking. Therefore, it resulted in its reference to the BIFR under section 15(1) of CISA and was declared sick in August 1996. The Yerraguntla plant was sold out to M/s India Cements Ltd. on 21 January 1998 for Rs. 200.70 crore to meet the demand of creditors as per the directions of Hon'ble BIFR.

The crisis was further aggravated when the accumulated loss of the Corporation, by 31 March 2005, mounted up to Rs. 2152.86 crore, which sharply stood in contrast to its paid up capital of Rs. 429.28 crore. Its net worth went to the sub-zero level and became negative. It was worth Rs. 1723.58 crore. All those catastrophic developments took place even before the rehabilitation scheme was approved by the BIFR. (Standing committee on Revival and restructuring of CCI Ltd., 2011)

The rehabilitation scheme sanctioned by the Hon'ble BIFR on 3 May 2006 suggested closure of seven unviable plants located at Mandhar, Kurkunta, Akaltara, Charkhi Dadri, Delhi Grinding Unit/Bhatinda Grinding unit, Nayagaon and Adilabad and sale of assets of those plants through Asset Sale Committee. The employees working in those units were kept under the category of Voluntary Separation Scheme to get rid of unproductive fixed expenses. The liabilities of the company were further reduced due to the waiver of interests, penalties and surcharge on the Government dues. The revival package also consisted of concessions from the Government, financial institutions, banks and creditors (Standing committee on Revival and restructuring of CCI Ltd., 2011).

4.1.2 Products of CCI Ltd.

CCI Ltd. manufactures various types of cements like Portland Pozzolana Cement (PPC), Portland Slag Cement (PSC) & Ordinary Portland Cement (OPC) of varying grades viz., 33, 43, 53 grades under strict quality control with the brand name of CCI Cement. The Corporation is introducing new product range such as 53-S Grade, special cement for manufacturing Railway sleepers and also introducing cement brand names *Maha shakti* (43 Grade), *Param shakti* (53 Grade), *Poorna shakti* (33 Grade) and *Jal shakti* (33 Grade PPC) for better brand image.

- **Portland Pozzolana Cement (PPC)**

The Portland Pozzolana Cement is a kind of Blended Cement which is produced by either inter-grinding of OPC clinker along with gypsum and pozzolanic materials in

certain proportions or grinding the OPC clinker, gypsum and Pozzolanic materials separately and thoroughly, blending them in certain proportions. Portland Pozzolana Cement also commonly known as PPC cement. These types of cement are manufactured by using pozzolanic materials as one of the main ingredient. The percentage of *pozzolanic* material, used in the preparation, should be between 10 to 30.The strength of cement is reduced when the percentage is exceeded. Some of the pozzolanic materials used are volcanic ash, shale's and certain type of clays. In India, Fly ash is the main constituent used in preparation of cement. Moreover, this type of cement is used for more than 80% construction purposes.

- **Portland Slag Cement (PSC)**

PSC is blended cement and it is the most suitable cement for Infrastructure Projects because of its high flexural strength. Maximum strength, low risk of cracking, improved workability and superior finish are some of the advantages of PSC. Portland Slag Cement (PSC) is manufactured by either inter-grinding in the Portland cement clinker, Gypsum & Granulated Slag or blending the Ground Granulated Blast Furnace Slag (GGBS) with Ordinary Portland Cement by means of mechanical blenders. It is created with a combination of 45- 50% slag, 45% – 50% clinker, and 3-5% gypsum. PSC has been voted as the most suitable cement for concrete pavements, mass concrete applications, high performance or high strength concrete, structures and foundations, pre-cast concrete such as pipe & block, concrete exposed to sea water and marine application.

- **Ordinary Portland Cement (OPC)**

Ordinary Portland Cement (OPC) is the most common cement used in general concrete construction, when there is no exposure to sulphates in the soil or groundwater.The raw materials required for the manufacture of OPC are calcareous material such as limestone or chalk and argillaceous materials such as shale or clay. A mixture of these materials is burnt at a high temperature of approximately 14000 ^{o}C in a rotatory kiln to form clinker. The clinker is then cooled and grounded with a requisite amount of gypsum into fine powder known as Portland cement. OPC is a gray coloured powder which is capable of bonding mineral fragments into a compact whole when mixed with water. This hydration process results in a progressive stiffening, hardening and strength development.

4.1.3 Plants of Cement Corporation of India

The units of the Cement Corporation of India were established in 8 States/Union Territories of India. The units are spread throughout the country from East (Bokajan in Assam) to West (Akaltara, Mandhar in Chhattisgarh and Nayagaon in Madhya Pradesh) and from North (Rajban in Himachal Pradesh and Charkhi Dadri in Haryana) to South (Kurkunta in Karnataka and Adilabad, Tandur in Andhra Pradesh), with one cement grinding unit in Delhi, CCI Ltd. The details of the locations of each plant are given below.

4.1.3.1 Operating Plants

- Bokajan Assam
- Rajban Himachal Pradesh
- Tandur Andhra Pradesh

4.1.3.2 Non Operating Plants

- Mandhar Chhattisgarh
- Kurkunta Karnataka
- Nayagaon Madhya Pradesh
- Akaltara Chhattisgarh
- Charkhi Dadri Haryana
- Adilabad Andhra Pradesh
- Delhi Grinding Unit, Delhi
- Yerraguntla Andhra Pradesh

Details of state, location, capacity, process used and date of commissioning of different plants of CCI Ltd. is given in the following table 4.1.

Table 4.1 Plants of Cement Corporation of India Limited.

S.NO	Cement Plant Location (Operating And Non-Operating Plants)	State	Capacity (Lacs MT)	Process	Date Of Commissioning
1.	Bokajan	Assam	1.98	Dry	01.04.77
2.	Rajban	Himachal	1.98	Dry	01.04.80
3.	Tandur	A.P.	10	Dry	01.07.87
4.	Mandhar	Chattisgarh	3.8	Wet	19.07.70
5.	Kurkunta	Karnataka	1.98	Wet	01.10.72
6.	Nayagaon	MP	4	Dry	01.03.82
7.	Akaltara	Chattisgarh	4	Dry	01.04.81
8.	Charkhi-Dadri	Haryana	1.74	Semi-Dry	10.05.82
9.	Adilabad	A.P	4	Dry	01.04.84
10.	Delhi Grinding Unit	Delhi	5	-	01.05.90

Source: *CCI Ltd.*

1. BOKAJAN (Assam)

This unit is located in a difficult area in Karbi Anglong Distt. of Assam. It was set up more from a socio economic point of view for serving the neighbouring areas rather than only for normal economic consideration. The unit went into production since1st April, 1977. It has capacity of 1.98 Lacs tonnes. Limestone for this unit is transported by ropeway which is 18 Kms long, passing through difficult terrain (Bokajan Cement Factory n.d).

2. RAJBAN (Himachal Pradesh)

This is another unit located in a hilly and difficult area. The Unit does not have nearby rail head and therefore, in addition to normal communication being difficult, the unit is serviced for both, inward movement of materials and outward movement of finished products, by road transport for a considerable lead. The entire production of this factory has to be distributed by road. It has capacity of 1.98 Lacs tonnes. From the quarry situated in the hills, limestone is transported by a ropeway of 9 kms. The unit is in commercial production since 1st April, 1980 (Rajban Cement Factory, n.d).

3. MANDHAR (Chhattisgarh)

This is the first unit of the Corporation, which went into production on 19th July, 1970, adopting the wet process. This was expanded to produce slag cement from November, 1978. It is located at Chhattisgarh with the capacity of 3.8 Lacs tonnes. The slag requirement is drawn from Bhilai Steel Plant (Mandhar Cement Factory, n.d).

4. KURKUNTA (Karnataka)

This is the second wet process unit which went into production on 1st October, 1972. The plant is situated at Karnataka. It adopted the wet process with a production capacity of 1.98 Lacs tonnes (Kurkunta Cement Factory, n.d).

5. NAYAGAON (Madhya Pradesh)

This unit, with an annual installed capacity of 4 Lacs tonnes, went into commercial production since 1st March, 1982. An expansion project of another 10 Lacs tonnes was undertaken on the concept of split location, i.e. clinkerisation at Nayagaon and grinding of clinker at Delhi and Bhatinda. Clinkerisation plant at Nayagaon and grinding unit at Delhi, have gone into commercial production from 1st May, 1990 (Nayagaon Cement Factory, n.d).

6. AKALTARA (Chhattisgarh)

This unit went into commercial production from 1st April, 1981. The plant is located at Chattisgarh. It adopted the dry process for its production. It has a capacity of 4 Lacs tonnes (Akaltara Cement Factory, n.d)

7. CHARKHI DADRI (Haryana)

This was a sick unit, taken over by the Government of India and vested with CCI Ltd. in June, 1981. After rehabilitation within a short period, cement grinding was started by September, 1981 and clinker production started subsequently. Out of two streams, only one was capable of rehabilitation. This unit is located at Haryana having the capacity of 1.74 Lacs tonnes. It adopted the semi-dry process. It started its production on 10th may 1982 (Charkhi Dadri Cement Factory, n.d).

8. ADILABAD (Andhra Pradesh)

This unit went into commercial Production from 1st April, 1984 and the plant is situated at Andhra Pradesh. It adopted the dry process. Its capacity is 4 Lacs tonnes (Adilabad Cement Factory, n.d).

9. TANDUR (Andhra Pradesh)

This unit went into commercial production since 1st July, 1987. It adopted the dry process and is located at Andhra Pradesh having the capacity of 10 Lacs tonnes (Tandur Cement Factory, n.d).

10. Delhi Grinding Unit (Delhi)

It is located at Delhi and started its production since 1.05.1990. Capacity of Delhi grinding unit is 5 Lacs MT per annum (Delhi Cement Grinding Unit, n.d).

4.1.4 Vision of CCI Ltd.

Source: *Annual report of CCI Ltd. 2014-15*

4.1.5 Mission of CCI Ltd.

Source: *Annual report of CCI Ltd. 2014-15*

4.2 PRESENT POSITION AND STRATEGIC INITIATIVES OF CEMENT CORPORATION OF INDIA LTD.

The Indian economy, after growing at an average of around 8.5 percent for most of the last decade, comes down below 5 percent in the last two years. The agriculture sector, at 4.7 percent, continued to be the main driver of economic growth while the manufacturing sector's performance remained subdued during the year on account of low investment sentiment and weak demand. High and persistent inflation remained a key macroeconomic challenge, faced *by* India, throughout the financial year 2013 -14. RBI had to keep the lending rates high to control the inflation. This had a major bearing on the prospects of the cement industry during FY 2013-14 (Annual Report of CCI Ltd., 2014).

Number of infrastructure projects got installed and the people resorted to cut down on their discretionary spending as is evident from the fact of drying up of new housing projects. This has led to slump in construction activities. During the financial year, recessionary conditions prevailed in the Global Economy also had its impact on our domestic economy, leading to fall in the value of the Rupee, thereby impacting the petroleum prices among others.

Reduced momentum in the cement consumption resulted in widening of the cement demand and supply gap, which in turn put downward pressure on the cement prices in most parts of the country. Additionally, the cement industry had to bear the burden of increased logistic loss due to rise in petroleum prices, resulting lower sales realization.

Net profit of CCI Ltd. during the year 2014-15, has increased to Rs. 40.08 crores as against net profit of Rs. 16.20 crores during the previous year. Dispatches of cement during the year 2014-15, were 9.47 Lacs MT of Cement as against 8.31 Lacs MT during the previous year. The year 2014-15 witnessed the highest production of clinker & cement and dispatch of cement in the last five years. Plant at Tandur could achieve the highest production of 7 Lacs tonnes in the last year since inception of the plant in 1987. Production at Rajban Unit was also highest during the last 5 years. Overall capacity utilization of CCI Ltd. stood at 66% (the highest during the last 5 years) inspite of many adverse conditions faced by CCI Ltd., particularly with respect to running of old and obsolete plant at Bokajan (Annual Report of CCI Ltd., 2015).

Significant milestone achieved by CCI Ltd. during 2014-15 include

- Increased production of over 1 Lacs tonnes in 2014-15 compared to 8.36 Lacs metric tonne in 2013-14 which converts to 14% growth.
- Similarly, the capacity utilization stood at 65.88% in 2014-15 over 57.84% during 2013-14, reflecting a growth of 8.1%, despite of stiff competition with private players.
- The sales turnover achieved at Rs.449.55 crore in 2014-15 as compared to Rs.363.03 crore in 2013-14, showing a growth rate of 23.83%.
- The net profit was Rs.40.08 crore in 2014-15 as against Rs.16.20 crore of 2013-14, registering a growth of 147.41%.
- The average ex-factory realization per bag of cement in 2014-15 has also an increase of 10% over 2013-14.
- Company has recorded highest production, capacity utilization, sales turnover and net profit (Annual Report of CCI Ltd., 2015).

During the year under review as compared to past years from the 2010-11 onwards CCI Ltd. operates in North East, South and Northern region (Annual Report of CCI Ltd., 2015). Out of these three regions, Karnataka has been performing on steady pattern and CCI Ltd. have been able to keep the pace by matching prices and pushing volumes in otherwise low demand in the market. This has been achieved as marketing team of CCI Ltd. has been able to harness the rural market in the state. The reason for poor demand is due to ban on mining of sand which still continues (Annual Report of CCI Ltd., 2014).

In Andhra Pradesh, some improvements were noticed during the month of August to October, but thereafter, due to heavy arrivals by almost 30- 35 brands, the prices crashed. However, to keep a pace with developments in the state, recently developed loose cement market being explored.

Maharashtra region remains low with issues such as Local Body Tax and low demand in government and private sector. Glut in housing sector has resulted in poor flow of cash in the market. With the permission to allow mining in limited manner, market has started to show some signs of recovery and demand has started to emerge. However, pressure on the prices continues.

Whereas performance in the north eastern region was affected due to poor demand, price cutting, frequent bandhs by anti national forces in the area. Due to

prevailing situation, the competitors who get huge subsidies are passing the same to dealers and leashed out a price war amongst them (Annual Report of CCI Ltd., 2015).

4.3 AWARDS WON BY CCI LTD.

Table 4.2: Awards of CCI Ltd. from 2012-13 to 2014-15

1.	Corporation won First Award "12th National Award for Excellence in Cost Management 2015" organized by The Institute of Cost Accountants of India.			
2.	Second Prize won by Tandor Unit - "Mine Safety Week 2014 Zone -3 A2 Group Environment and Health Management host by KCP". First Prizes was won by Tandur Unit- "Publicity Propoganda and Innovation" organised by Mines Safety & Productivity Council 2013.			
3A.	Mine Environment & Mineral Conservation Week 2014-15, 2013-14, 2012-13 at Panchkula (Haryana)	**2014-15**	**2013-14**	**2012-13**
	Award For Air & Water Pollution Control Measures			2nd Prize
	Award For Waste Dump Management & Reclamation		2nd Prize	2nd Prize
	Award For Afforestation 3rd Prize	3rd Prize	2nd Prize	
	Award For Mineral Conservation		3rd Prize	
	Scientific Development of Mine	3rd Prize		
3B.	Mine Safety Week 2015			
	Vocational Training	1st Prize		
	Noise, Air Pollution & lighting	3rd Prize		
4A.	3rd prize won by Bokajan Unite - "Mine Safety day for explosive maintenance".			
4B.	5th Mines Environment and Mineral Conservation Week: 2013-14 2012-13 was celebrated at Guwhati and Shillong			

		2014-15	2013-14	2012-13
	"Waste Dump Management"		2nd Prize	1st Prize
	"Reclamation and Rehabilitation" 1st Prize		2nd Prize	1st Prize
	Publicity and Propaganda		2nd Prize	
	"OVERALL"			2nd Prize
	General Health & Welfare		3rd Prize	
	"Noise and Vibration Survey"			3rd Prize
	Paryabaran bhandhu Awards			Rs. 1100/-

Sources: *(Annual Report of CCI Ltd., 2015).*

4.4 SWOT ANALYSIS OF CCI LTD.

4.4.1 Strengths & Weaknesses

a. Strengths

1. CCI Ltd is the only Central Public sector Undertaken in Cement Industry in India.
2. Various Project and developmental activities like close circuiting of Cement Mill, installation of LP cyclones in preheater, installation of multi-channel burner have been initiated for Tandur Plant.
3. The Company has quality management system in place and the operating plants at Tandur, Rajban and Bokajan have received ISO 9001 certification.
4. Regular trainings are being imparted to employees to inculcate a culture of quality orientation across the Company.
5. Consistent efforts have been made to revive HR policies in today's context and expose them in skill development programme including I.T. applications in thrust areas of the Company.
6. As on March, 2015, the Company has 813 employees consisting of 147 executives and 666 non-executive employees.

7. The Company has always believed in the philosophy of customer satisfaction and therefore making conscious efforts in organizing Dealers' Meet, Masons' Meet and such other developmental programmes at regular intervals.

b. Weaknesses

1. Cement factories are located in areas which did not have ample infrastructure facilities.
2. CCI Ltd does not have minimum amenities and conveniences in the form of township, community centers and health centers, etc.
3. Almost every plant of CCI Ltd has been over-capitalized due to time and cost overrun resulting in very high interest and depreciation costs.
4. Currently, seven plants of CCI Ltd are unoperated.
5. Currently, CCI Ltd is facing working capital crises which is hindering in smooth business operations.

4.4.2 Opportunities & Threats

a. Opportunities

1. Domestic consumption of cement in India is poised to reach 500 million tonnes by the year 2020. It is an opportunity for the company to capture the increase in demand.
2. In the emerging economies like India, the scope of infrastructure development is tremendous. India being the 11th largest economy of the world will play a major role in creating demand for cement.
3. India has a lot of potential for development in the infrastructure and construction sector and the cement sector is expected to largely benefit from it.
4. Major government initiatives involve reconstructing various heritage sites, urban development, slum reconstructions, concrete roads, rural linkage roads and highways.
5. The metro rail projects in Mumbai, Bangalore and Hyderabad and the expansion phase in Delhi will drive cement demand in this segment besides hydel dams, river canal lining & linkage and many other infrastructure related projects.
6. Airports modernization across major cities will also expand demand. Some of the major government initiatives such as development of 98 smart cities, Make in India, Digital India are expected to provide a major boost to the sector.

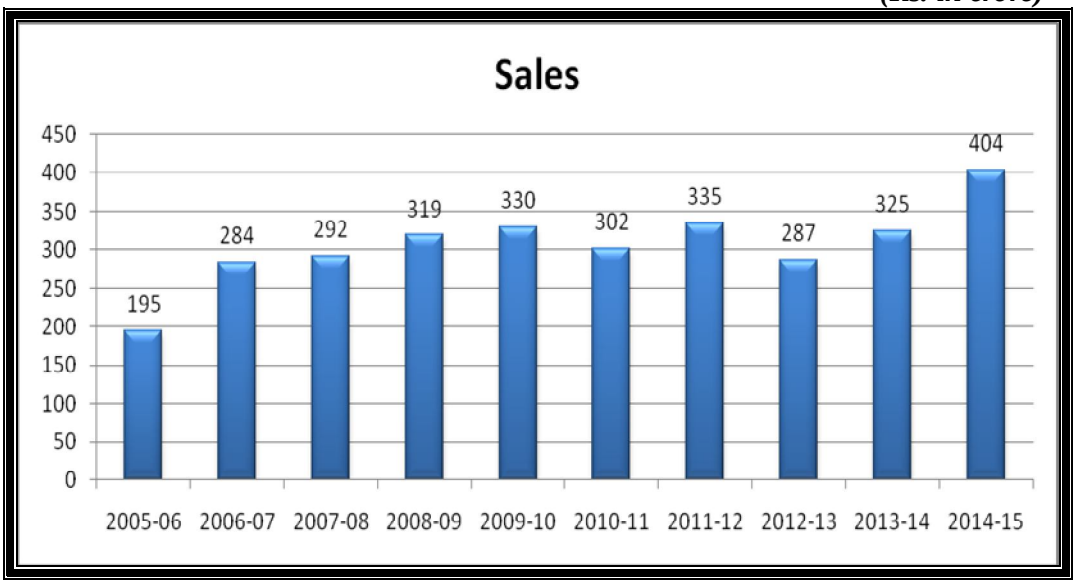
b. Threats

1. Intensification of competition from domestic as well as foreign steel producers.
2. Fall in international cement prices due to decline in raw material prices both for iron ore & coking coal.
3. Excess cement capacity in the country could lead to a margin squeeze.
4. Slowing growth in China could potentially increase competition from cheap imports.

4.5: FINANCIAL HIGHLIGHTS OF CCI LTD.

Figure 4.1: Net Sales of CCI Ltd. from 2005-06 to 2014-15

(Rs. in crore)

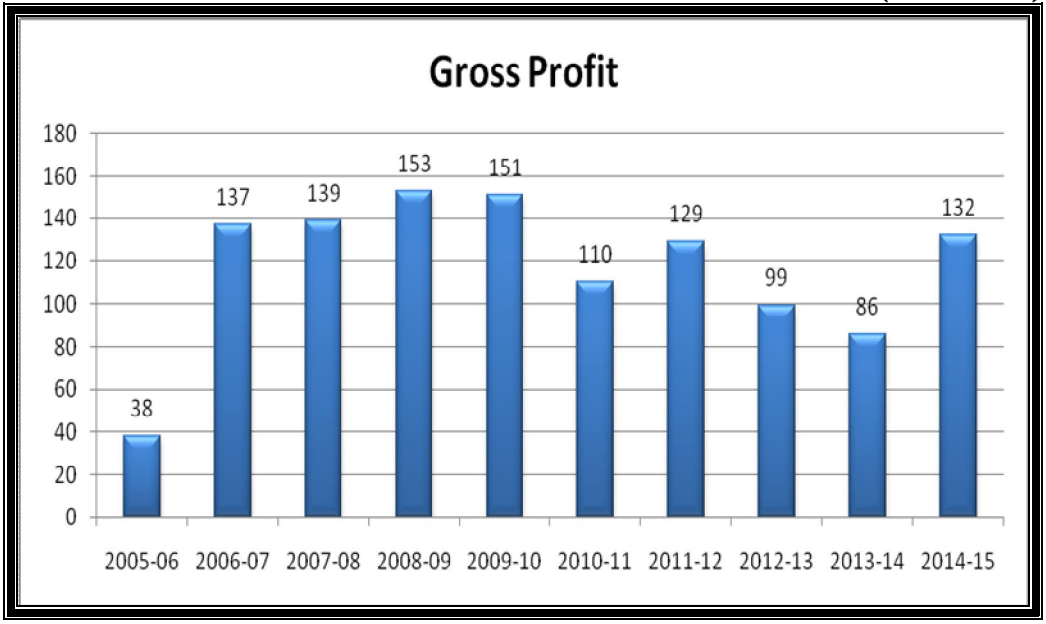


Source: *Annual Reports of Cement Corporation of India Limited from 2005-06 to 2014-15*

Figure 4.1 shows net sales of CCI Limited from 2005-06 to 2014-15. The net sales of the company was Rs. 195 crore in 2005-06 which increased in next year to Rs. 284 crore. The company has not registered any significant growth during the tenure of the study as it revolves around approximately Rs. 300 crore till 2013-14. Net sales of the company enhanced in last year of the study as it reached to Rs. 404 crore in 2014-15.

Figure 4.2: Gross Profit of CCI Ltd. from 2005-06 to 2014-15

(Rs. in crore)

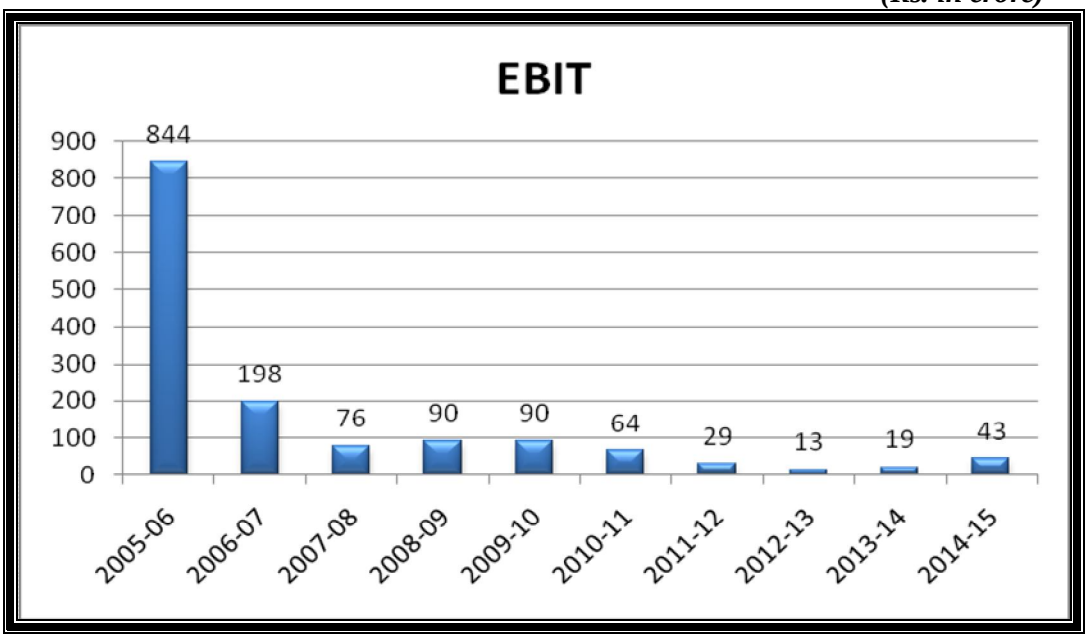


Source: *Annual Reports of Cement Corporation of India Limited from 2005-06 to 2014-15*

Gross profit of Cement Corporation of India limited has been presented in figure 4.2. Company earned Rs. 38 crore as gross profit in 2005-06. It registered a significant growth in the next year of the study i.e. Rs. 137 crore. Further, company managed to earn sufficient profit for the smooth operations of the company as it was stood at Rs. 151 crore in 2009-10. Gross profit of the company declined in 2012-13 and 2013-14 as it was only Rs. 86 crore in 2013-14. It increased during last year of the study and reached to Rs. 132 crore in 2014-15.

Figure 4.3: EBIT of CCI Ltd. from 2005-06 to 2014-15

(Rs. in crore)

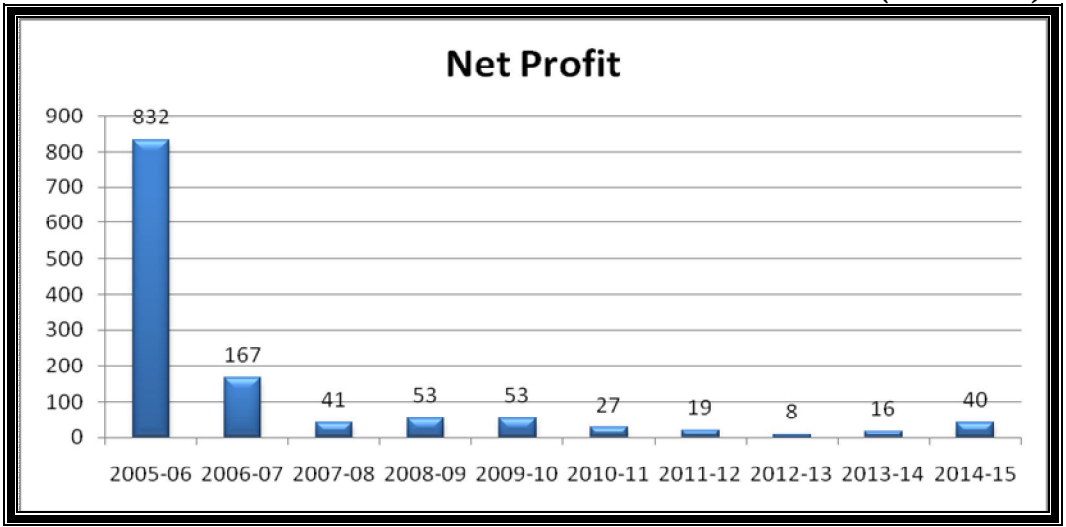


Source: *Annual Reports of Cement Corporation of India Limited from 2005-06 to 2014-15*

Figure 4.3 exhibits Earnings before Interest and Tax of Cement Corporation of India Limited from 2005-06 to 2014-15. EBIT of the company has been in decreasing trend during the study period. The EBIT of the company was Rs. 844 crore during the initial year of the study which declined rapidly in two subsequent years and reached to Rs. 76 crore only in 2007-08. Further, EBIT of the company declined during rest of the study period and finally stood at Rs. 43 crore in 2014-15.

Figure 4.4: Net Profit of CCI Ltd. from 2005-06 to 2014-15

(Rs. in crore)



Source: *Annual Reports of Cement Corporation of India Limited from 2005-06 to 2014-15*

Figure 4.4 elucidates the net profit of Cement Corporation of India Limited from 2005-06 to 2014-15. The net profit of the company was very high in 2005-06. Net profit of the company was Rs. 832 crore in 2005-06. The net profit of the company was scrolled down in the next year to became Rs. 167 crore. Further, the company was fail to manage profit as it shows a decreasing trend till the end of 2013-14. In 2014-15, it slightly increased and stood up to Rs. 40 crore.

4.6 CORPORATE GOVERNANCE OF CCI LTD.

Company's philosophy on Code of Governance

According to the philosophy of the Company in relation to Corporate Governance, Cement Corporation of India Ltd (CCI) believes in financial prudence, customers' satisfaction, transparency, accountability and commitment to stakeholders. CCI practices based on its stated belief and guidelines, the Government of India issues from time to time should go a long way to enhance value for all those who are associated with the Corporation i.e. shareholders, customers, suppliers, creditors, Government of India, State Governments, Government Agencies/Departments and the society at large. The Corporation believes that its operations and actions must serve the underlying goal of enhancing the interests of its stakeholders over a sustained

period of time, in a socially responsible way. The Company is committed to confirm the highest standards of Corporate Governance (Annual Report of CCI Ltd., 2015).

4.7 CORPORATE SOCIAL RESPONSIBILITY OF CCI LTD.

Corporate have initiative to assess and take responsibility for the company's effects on environment and impacts on social welfare. The term generally applies to company efforts that go beyond what may be required by regulators or environmental protection groups. Corporate social responsibility may also be referred to as "Corporate Citizenship" and can involve incurring short-term costs that do not provide an immediate financial benefit to the company, but instead promote positive social and environmental change. The company has a CSR policy approved by the Board of Directors which is based on philosophy where in CCI serves the interest of the society by taking responsibility for the impact of their activities on their customers, employees, shareholders, communities and the environment in all aspects of their operation. The policy also empowering and inspiring communities in the locational periphery of factories for attaining long-term sustenance through voluntary social actions covering micro-enterprises, self-help groups etc. and regarding the community as a major stakeholder and accordingly identifying their needs and addressing their concern areas has ensured a better quality of life. CCI has been playing a dominant role in the socioeconomic development of the North-East Region and regions surrounding Tandur and Rajban Cement plants and recognizes that its business activities have direct and indirect impact on the society. The company strives to integrate its business values and operations in an ethical manner to demonstrate its commitment to sustainable development (Annual Report of CCI Ltd., 2015).

The CCI has always discharged its social responsibility as a part of its CSR philosophy that business and society can become partners for development. In line with its Corporate Social Responsibility, your Company has created basket of activities and taken up various initiatives at its plants level. Thrust area on which CSR activities has been carried out are in nature of infrastructural facilities for educational institutions, financial assistance to BPL students of Polytechnics, Medical / Health care camps at villages around plants, sports activities etc.

The present Chapter throws light on the profile of Cement Corporation of India Limited. This Chapter discusses the Mission and Vision of CCI Ltd. History and

evolution of CCI Ltd., Different Plants and Products of CCI Ltd. Etc. The next Chapter deals with Conceptual Framework of Financial Performance and Financial Tools and Technique used in the present study.

REFERENCES

Adilabad Cement Factory, (n.d). *Cement Corporation of India Limited*. Retrieved from http://www.cementcorporation.co.in/page.php?id=54

Akaltara Cement Factory, (n.d). *Cement Corporation of India Limited.* Retrieved from http://www.cementcorporation.co.in/page.php?id=52

Bokajan Cement Factory, (n.d). *Cement Corporation of India Limited.* Retrieved from http://www.cementcorporation.co.in/page.php?id=50

CCI Ltd. (2006). *42th Annual Report 2005-06*. Retrieved from http://www.cementcorporation.co.in/page.php?id=21

CCI Ltd. (2007). *43th Annual Report 2006-07*. Retrieved from http://www.cementcorporation.co.in/page.php?id=21

CCI Ltd. (2008). *44th Annual Report 2007-08*. Retrieved from http://www.cementcorporation.co.in/page.php?id=21

CCI Ltd. (2009). *45th Annual Report 2008-09*. Retrieved from http://www.cementcorporation.co.in/page.php?id=21

CCI Ltd. (2010). *46th Annual Report 2009-10*. Retrieved from http://www.cementcorporation.co.in/page.php?id=21

CCI Ltd. (2011). *47th Annual Report 2010-11*. Retrieved from http://www.cementcorporation.co.in/userfiles/files/Final%20AR%20Eng%2010-11.pdf

CCI Ltd. (2013). *49th Annual Report 2012-13*. Retrieved from http://www.cementcorporation.co.in/userfiles/files/AR%20Eng%202012-13%20Pg%201-66.pdf

CCI Ltd. (2014). *50th Annual Report 2013-14*. Retrieved from http://www.cementcorporation.co.in/UserFiles/files/CCI_Eng___Hindi.pdf

CCI Ltd. (2015). *51th Annual Report 2014-15*. Retrieved from http://www.cementcorporation.co.in/UserFiles/Final%20AR%202014-15.pdf

CCI Ltd.(2012). *48th Annual Report 2011-12*. Retrieved from http://cementcorporation.co.in/userfiles/files/AR%20ENG%20201.pdf

Charkhi Dadri Cement Factory, (n.d). *Cement Corporation of India Limited.* Retrieved from http://www.cementcorporation.co.in/page.php?id=109

Delhi Cement Grinding Unit, (n.d). *Cement Corporation of India Limited.* Retrieved from http://www.cementcorporation.co.in/page.php?id=49

Kurkunta Cement Factory, (n.d). *Cement Corporation of India Limited*. Retrieved from http://www.cementcorporation.co.in/page.php?id=56

Mandhar Cement Factory, (n.d). *Cement Corporation of India Limited*. Retrieved from http://www.cementcorporation.co.in/page.php?id=53

Nayagaon Cement Factory, (n.d). *Cement Corporation of India Limited*. Retrieved from http://www.cementcorporation.co.in/page.php?id=51

Plants, (n.d). *Cement Corporation of India Limited*. Retrieved from http://www.cementcorporation.co.in/page.php?id=47

Profile, (n.d). Cement *Corporation of India Limited*. Retrieved from http://www.cementcorporation.co.in/page.php?id=23

Rajban Cement Factory, (n.d). *Cement Corporation of India Limited*. Retrieved from http://www.cementcorporation.co.in/page.php?id=57

Rajya Sabha, Parliamenmt of India. (2011). *Standing committee reports 219, on the revival and restructuring of cement corporation of India limited.*

Tandur Cement Factory, (n.d). *Cement Corporation of India Limited*. Retrieved from http://www.cementcorporation.co.in/page.php?id=55

Chapter – 5

Conceptual Framework of Financial Performance Appraisal

5.0 INTRODUCTION

The historical background, growth and development of Cement Corporation of India Limited (CCI Ltd.) have been discussed in the previous chapter. The present chapter discusses the concept of financial performance and its evaluation with the description of the available accounting ratios, financial statements, and other financial performance tools which are used to measure the financial performance of a company.

The basic purpose of a business firms is to earn adequate return on the capital invested in it. To enhance the return and optimize the financial position, an assessment of liquidity, solvency, and profitability and business operations is necessary.

The financial performance indicates the extent to which the management is able to achieve its goals. The evaluation of financial performance is a complex process as it deals with the effectiveness of capital employed, profitability, and efficiency of operations, value and safety of the various claims against the business. It is the final step of an accounting cycle that begins with recording, classification, summarization, presentation and analysis of data which makes possible the interpretation of financial statements. Financial statements analysis unveils the meaning and significance of the items composed in Profit and Loss Account and Balance Sheet so as to assist the management in formation of sound operating financial policies (Kennedy & McMullen, 1999).

Business is mainly concerned with the financial activities to ascertain the financial status of the business. Every enterprise prepares certain statements, known as financial statements. Financial statements are mainly prepared for decision making purposes. But the information, as is provided in the financial statements, is not adequately helpful in drawing a meaningful conclusion. Thus, an effective analysis and interpretation of financial statements is required. Financial statements present the summary of operating, financing and investment activities of a business. They provide useful information to the investors, creditors and other stakeholders in making credit, investment and other business decisions. Investors, creditors and other stakeholders

can use these statements to predict, compare and evaluate the amount, timing, and uncertainty of potential cash flows. Financial statements provide the information needed to assess a company's future earnings and therefore the cash flows expected to result from those earnings. The four basic financial statements are balance sheet, income statement, statement of cash flows and statement of shareholders' equity (Peterson & Fabozzi, 1999). The analysis of financial statements is a process of evaluating the relationship between component parts of financial statements to obtain a better understanding of the firm's position and performance. Financial appraisal is the process of scientifically making a proper, critical and comparative evaluation of the performance i.e. the profitability and financial health of any business enterprise through the application of the techniques of financial statement analysis. Financial appraisal is a process of evaluating the summarized financial and business data to obtain a better understanding of a firm's position and performance (Metcalf and Titard, 1976).

The main objective of appraisal of financial statements is to determine the measure of efficiency of operations or the profitability from its income statements and to assess financial strength as compared with similarly situated concern. Financial appraisal gives an accurate picture of the financial condition of a business firm in asummarized form. Financial appraisal is generally directed towards evaluating the liquidity, efficiency and profitability of a concern. The financial appraisal of a concern involves the steps namely, collection of financial data, classification and tabulation of financial data and application of appropriate techniques. Financial performance analysis is the process of identifying the financial strengths and weaknesses of a firm by properly establishing the relationship between the items of the balance sheet and the profit and loss account of the firm (Pandey 1979).

5.1 MEANING OF FINANCIAL STATEMENTS

A financial statement is a formal record of the financial activities and position of a business, person or other entity. Relevant financial information is presented in a structured manner and in a form easy to understand. They typically include basic financial statements, accompanied by a management discussion and analysis ("Financial", n.d.).

They are prepared in accordance with Generally Accepted Accounting Principal and accounting standards. In the words of Hampton (as quoted in Maheswari, 2000), "A financial statement is an organized collection at data organized according to logical and insistent accounting procedure". Therefore, all the statements and accounting reports, which the accountants prepare at the end of accounting period for a business enterprise, may be taken as financial statements. The principal financial statements are 'balance sheet' and profit and loss account. The financial statements are used for various objectives, for example, determining profit for the purpose of managerial remuneration, for making provision for income tax, for determining taxable profit, etc.

5.2 MEANING OF FINANCIAL STATEMENT ANALYSIS

The term 'financial analysis', also known as analysis and interpretation of financial statements, refers to the process of determining financial strengths and weaknesses of a firm by establishing strategic relationship between the items of the balance sheet, profit and loss account and other operative data. Financial analysis is a scientific tool which has assumed an increasingly important role in terms of appraising the real worth of an enterprise, its performance during a period of time and its pitfalls. In the words of Myers (quoted by Gupta and Sharma, 2005), "financial statement analysis is largely a study of relationship among the various financial factors in a business as disclosed by a single set of statements and a study of the trend of these factors as shown in a series of statements". The purpose of financial analysis is to diagnose the information contained in financial statements so as to judge the profitability and financial soundness of the firm. Just like a doctor examine his patient by recording his body temperature, a blood pressure, etc. before making his conclusion regarding the illness and before giving his treatment, a financial analyst analyze the financial statements with various tools of analysis before commenting upon the financial heath or weaknesses of an enterprise (Gupta and Sharma, 2005).

The financial statement analysis, therefore, helps to answer queries regarding profitability, credit worthiness and safety of investment. It serves as a means of self evaluation of its financial soundness, managerial skills and competencies for the management. It describes credit rating to the creditors and measures the social responsibility of a corporation. The performance of a company can be measured

through its financial results given in its financial statements consisting of Income Statement and Balance Sheet. These statements present the financial information for a period of time. Size of earning risks and profitability are the two major factors which jointly determine the value of a company.

The technique of financial analysis is typically devoted to evaluate the past, present and projected performance of a business firm in future. The ability of an organization to analyze its financial position is essential for improving its competitive position in the marketplace (Bhunia, 2010). Financial analysis is the examination and evaluation of a firm's financial positions and operations which involves comparison and interpretation of accounting data (Kulkarni, 1994).

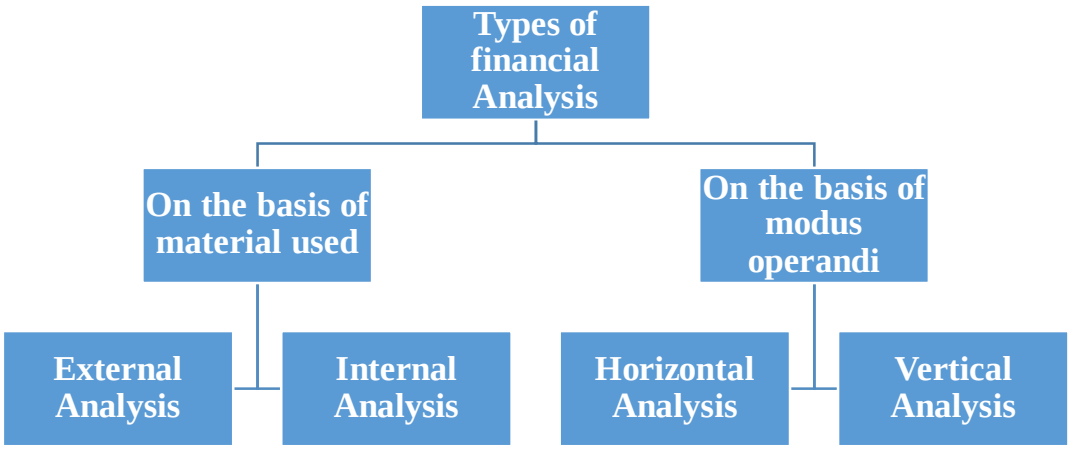
It is a process to evaluate the relationship between component parts of financial statements to obtain a better understanding about the position and performance of a firm (Metcalf & Titard, 1976). Financial analysis is defined as the process of discovering economic facts about an enterprise or a project on the basis of an analysis of the available financial data (Desai, 1999).

Risk and profitability are the two essential components of a business. Financial decisions involving more risk, decrease the value of a firm and the decisions which increase the profitability, increase the value of the firm. Financial performance of a company is therefore, normally judged by a series of ratios or other accounting parameters. However, it is to be noted that fundamentally, the balance sheet indicates the financial position of the company as on that point of time (Pandey, 2009).

5.2.1 Types of financial statements analysis

A brief explanation of types of financial statement is discussed below (Gupta and Sharma, 2011).

Chart 5.1: Types of financial analysis



Source: Sharma Gupta 2011

A. On the basis of material used

According to material used, financial analysis can be of two types: External analysis, and internal analysis. They are discussed as follows:

- **External Analysis**

This analysis is done by outsiders who do not have access to the detail internal accounting records of the business firm. The Term external analysts include investors, credit agencies, government agencies and other creditors and everybody for whom to get the internal accounting records of the company is not accessible. The published financial statements are generally being used for the analysis by these external analysts.

- **Internal Analysis**

This analysis is conducted by insiders who have access to the internal accounting records of a business firm. It includes executives, employees, government officials etc. The usefulness of analysis depends upon the objectives that have to be achieved through it.

B. On the basis of modus operandi

According to the method of operation followed in the analysis, financial analysis can also be of two types, Horizontal Analysis andVertical Analysis. They are discussed as follows:

- **Horizontal Analysis**

A horizontal analysis is a procedure in fundamental analysis in which analyst compares ratios or line items in a company's financial statements over a certain period of time. It compares financial information over time, typically from past quarters or years. Horizontal analysis is performed by comparing financial data from a past statement, such as the income statement. The current year's figures are compared with the standard or base year and changes are shown usually in the form of percentage. This analysis helps the management to have an insight into levels and areas of strength and weaknesses. It is also known as 'Dynamic Analysis'. Comparative analysis and Trend analysis are the form of horizontal analysis According to John N. Myer (quoted by Srivastava, 1979), "The horizontal analysis consists of a study of the behavior of each item of the entities in the statements".

- **Vertical analysis**

In vertical analysis, the figures from financial statement of a year are compared with a base selected from the same year's statement. Since this sort of analysis examines relationships between different components for a given point of time and does not shed light on changing behavior of the above relationships, it is also regarded as 'Static Analysis'. Common-size statements and Ratio analysis are the form of vertical analysis.

5.2.2 Procedure of Financial Performance Appraisal

The following preliminaries are required to be completed for making an analysis and interpretation of financial statements. Appraisal of financial statements is the interest of lenders, investors, security analysts, managers and other stakeholders. The analytical procedure is outlined below (Sharma & Gupta, 2011).

- Selection of sample units and the objectives of the study.
- Collection of financial data from annual reports or from different sources/databases of the concern under study.
- The financial data should be re-arranged and re-organized in a meaningful manner. It may involve the grouping of similar data under same heads, breaking down of individual components of statements according to nature of data.
- With the help of tools and technique of analysis such as ratios analysis, trends analysis, common size analysis, etc. a relationship is established.

- The interpretations drawn from the analysis are presented in the form of findings or reports.

5.2.3 Importance of Financial Analysis

- **Judging the Operational Efficiency of the business:** For the smooth functioning of the company, it is necessary that company must realize the significance of the operational efficiency of its management. In order to judge the operational efficiency of the business, financial statements are analyzed by the analyst. They also match the amount of manufacturing, selling, distribution and financial expenses of the current year with the corresponding expenses of the previous year and measure the management efficiency of the business.
- **Helps in Evaluating Return on Investment:** Financial analysis is beneficial in evaluating the return on investment and also provides one with an edge over the competition in a down market.
- **Indicating the trend of achievements:** One can contrast the financial statements of the previous years and can also ascertain the trend regarding various expenses, purchases, sales, gross profit and net profit. Future possibility of the business can be specified and cost of goods sold, values of assets and liabilities can be equated.
- **Assessing the growth potential of the business:** trend and dynamic analysis of the business provides sufficient information. This represents the growth potential of the business. If the trends suspects gloomy picture, then certain effective measures can be applied as remedial measures.
- **Measuring the profitability:** Financial analysis is helpful in improving profitability and also allows us to set benchmarks. They aided in optimizing productivity.
- **Intra firm and inter firm comparison of the performance:** Financial statements can be analyzed with the help of comparison with the previous year's performance of the same firm and with other firms. Intra firm analysis acts as a tool for self appraisal, while inter firm analysis provides the operational efficiency of the firm as compared to other firms. By making comparisons, one can identify the weaknesses and can also apply the corrective measures accordingly.

- **Forecasting, budgeting and deciding future line of action:** By analyzing financial statements, one can forecast the growth potential of the company. Shortcomings can be identified by comparing the actual performance of the company with the desire performance. By doing this analysis, one can get sufficient information regarding profitability, performance and financial soundness of the business. These analyses are also beneficial for the analyst as they can make effective forecasting, budgeting and planning.
- **Simplified, systematic and intelligible presentation of facts:** Financial statements analysis works as an effective tool for simplification, systematization or summarizing the monotonous figures. An average person can identify conclusion from these ratios. By graphs and diagrams, the facts can be made more simplified and attractive so that it could be easily understood.
- **Pinpoints strengths and weakness:** In order to get more bangs out of bucks, financial analysis can be used. It acts as an effective tool for pinpointing the strength and weaknesses. It is also helpful for the adjustment of the planning strategy.

5.2.4 Limitations of Financial Analysis

Financial analysis is a powerful and effective mechanism as it helps in determining the weaknesses and strengths of the firm. But financial analysis has certain limitations as it is based on the information available in the financial statements.

- **Suffering from the limitations of financial statements:** Financial statements have lots of weaknesses. Balance sheet is prepared on the basis of historical record of the value of the assets. Financial statements can only be prepared according to certain conventions at a point of time, while the investor also concerned in the present and future of the business.
- **Absence of standard universally accepted terminology:** Due to certain ambiguities, accounting is not considered factual science. The profit revealed by the profit and loss account and the financial status represented by the balance sheet could never be actual. It does not have any such standardized or universally accepted terminology. There are so lots of meaning for a single item. There are different methodologies for calculating depreciation. Due to this, financial statements suffer a lot as there is a possibility of manipulation.

- **Price level changes are ignored:** Results displayed by the financial statements are also sometimes misleading, if the fluctuation in the prices has not been accounted for.
- **Qualitative aspects are not taken into account:** Financial analysis does not assess the qualitative aspect of the business. It does not deal with qualitative attributes like the skill, technical know-how and the efficiency of its employees and managers.
- **Financial statements are affected by window dressing:** The management displays impressive picture of the company with the help of financial statements. Sometimes material information is not shown. In order to display mind-blowing profit, sales may be exaggerated, stock may be overvalued and certain purchases are not represented. In such condition, financial statements are also not correct.
- **Personal ability and bias of analyst:**Sometimes the figures of the financial statements are affected by the biasedness of the analyst. Since these figures cannot speak themselves, so the analyst while analyzing and interpreting the information, depict their own views depending on their own analysis.
- **Misleading results in the absence of absolute data:** Due to the absence of absolute data, results shown by the financial analysis can be misleading. Increase in sales from Rs 30000 to 60000 indicated that sales have doubled.In case of other firm increase of sales from Rs 2000000 to 4000000 also depicted that the sales have doubled but the size of the firms is not the same. Profitability ratio of two firms may be identical, but magnitude of their business may not be similar.
- **Financial analysis is only a tool, not the final remedy:** Financial analysis only acts as a tool for measuring the profitability, efficiency and financial soundness of the business. Here in this case, personal views of the analyst are more important. It is just a tool, not a remedy where one cannot rely on single ratio.
- **Financial analysis spotted the symptoms but does not arrive at diagnosis:** Financial analysis can depict the trend of the affairs of the business. It represents financial unsoundness and operational inefficiency but that is

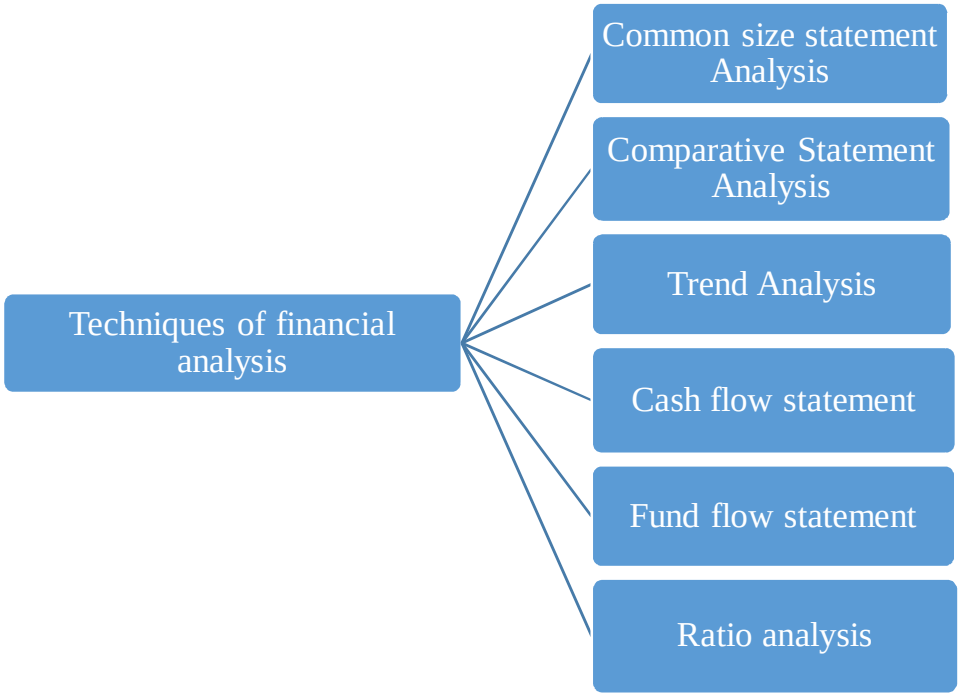
unacceptable, as it doesn't go for any diagnosis. A final decision in this regard will require further investigation and thorough diagnosis.

5.3 TOOLS AND TECHNIQUES OF FINANCIAL PERFORMANCE APPRAISAL

Financial Performance Evaluation is a study of relationship among the variables and their trends to comment over the financial position and results of operations of a concern. For this assessment a number of tools and techniques are available that enable the Researcher to draw useful and accurate conclusions.

Following are the significant accounting, financial tools and techniques that have been employed in the research for evaluating financial performance viz. Common Size Statement Analysis, Comparative Statement Analysis, DuPont Analysis, Ratio Analysis and Altman Z Score Model.

Chart 5.2: Tools & Techniques of financial performance analysis



Source:*Gupta & Sharma, 2011*

5.3.1 Common Size Financial Statements Analysis

Common Size Statement is a useful and convenient way of standardizing financial statements to express each item on the Income Statement as a percentage of sales and each item on the Balance Sheet as a percentage of total assets (Chandra, 2011). Common size statements prepared for one firm over the years would highlight the

relative changes in each group of expenses, assets and liabilities. Common Size Comparative Statements prepared for one firm over the years,whichhighlights the relative changes in each group of expenses, assets and liabilities. These statements can be equally useful for inter firm comparisons, given the fact that absolute figures of two firms of the same industry are not comparable. Common Size Statements convert financial statement by expressing absolute rupee amount into percentage (Patel, 2004).

5.3.1.1 Common Size Balance Sheet

A statement in which balance sheet items are expressed as the ratio of each asset to total assets and the ratio of each liability is expressed as a ratio of total liabilities is called Common-Size Balance Sheet. In Common-size balance sheet, the total assets and total liabilities are assumed to be 100% and other assets and liabilities are expressed as a percentage of this total. A company balance sheet that displays all items as percentages of a common base figure is known as Common Size Balance Sheet. This type of financial statement can be used to allow for easy analysis between companies or between time periods of a company. Thus, it helps in order to construct trend lines to ascertain changes over longer time periods. Format of common size balance sheet is as follows.

Table 5.1: Format of Common Size Balance Sheet

Particulars	**Absolute Amounts**		**Percentage of Total Assets**	
	Previous Year	Current Year	Previous Year	Current Year
Shareholders' Fund	-	-	-	-
Loan Funds	-	-	-	-
Current Liabilities	-	-	-	-
Total	-	-	**100**	**100**
Fixed Assets	-	-	-	-
Investments	-	-	-	-
Current Assets	-	-	-	-
Miscellaneous	-	-	-	-
Expenditure & Loss	-	-	-	-
Total	-	-	**100**	**100**

Source: *Chandra, P. (2011). Financial management: Theory and practices (8th Ed.). New Delhi, India: Tata McGraw Hill Education Private Limited.*

5.3.1.2 Common Size Income Statement

In the common-size income statement, the net sales are assumed to be100% and other items are expressed as a percentage of sales. The items in income statement can be shown as percentages of sales to show the relation of each item to sales. A significant relationship can be established between items of income statement and volume of sales. Relationship is established between sales and other items in income statement and this relationship is helpful in evaluating operational activities of the enterprise. This type of financial statement can be used to allow for easy analysis between companies or between time periods of a company. Format for preparing common size income statement is given as follows.

Table 5.2: Format of Common Size Income Statement

Particulars	**Absolute Amounts**		**Percentage of Net Sales**	
	Previous Year	Current Year	Previous Year	Current Year
Net Sales	-	-	100	100
Less: Cost of Goods Sold	-	-	-	-
Gross Profit	-	-	-	-
Less: Operating Exp.	-	-	-	-
PBIT	-	-	-	-
Less: Interest	-	-	-	-
PBT	-	-	-	-
Less: Tax	-	-	-	-
PAT	-	-	-	-

Source: *Chandra, P. (2011). Financial management: Theory and practices (8th Ed.). New Delhi, India: Tata McGraw Hill Education Private Limited.*

5.3.2 Comparative Financial Statements Analysis

A comparative statement is a statement which compares financial data from different periods of time. It is a form of horizontal analysis where Financial Statements of two or more years or of two or more different companies or of a company and its industry are compared, analyzed and interpreted. The Balance Sheet indicates the financial position and the Income Statement shows the operating and non-operating results. An investigation of comparative financial statements helps to highlight the significant facts and point out the items which need further analysis (Pandey, 2010). A comparative statement is a statement on which balance sheets, income statements, or

statements of changes in financial position are assembled side by side for review purposes. Changes that have occurred in individual categories from year to year and over the years are easily noted. Such statements not only show the absolute figures of various years but also provide for column to present the increase or decrease in these figures from one year to another. In addition, these statements may also show the changes from one year to another in percentage terms and provides information about two or more years' figures as well as any increase or decrease from previous year's figure and its percentage. This kind of analysis helps in identifying major improvements and weaknesses (Gupta & Sharma, 2007).

5.3.2.1 Comparative Income Statement

"Income statement is a summary of a firm's revenues and expenses over a specified period, ending with net income or loss for the period"

A comparative income statement / profit and loss account shows the absolute change from one period to another. Since the figures are shown side by side, the user can quickly understand the operational performance of the firm in different periods and can draw conclusions. The comparative income statement gives an idea of the progress of a business over a period of time. The income statement discloses net profit or net loss on account of operations. The changes in absolute data in money values and percentage can be determined to analyze the profitability of the business.

Table 5.3: Format of Comparative Income Statement

Particulars	Year Ending		Increase / Decrease (Absolute)	Increase / Decrease (Percentage)
	Current Year	Previous Year		
Net Sales	-	-	(+ / -)	(+ / -) %
Less: Cost of Goods Sold	-	-	(+ / -)	(+ / -) %
Gross Profit	-	-	(+ / -)	(+ / -) %
Less: Operating Expenses	-	-	(+ / -)	(+ / -) %
Administration Expenses	-	-	(+ / -)	(+ / -) %
Selling Expenses	-	-	(+ / -)	(+ / -) %
Total Operating Expenses	-	-	(+ / -)	(+ / -) %
Operating Profit	-	-	(+ / -)	(+ / -) %
Less: Interest Expenses	-	-	(+ / -)	(+ / -) %
Profit Before Tax	-	-	(+ / -)	(+ / -) %
Less: Taxes	-	-	(+ / -)	(+ / -) %
Profit After Tax	-	-	(+ / -)	(+ / -) %

Source: *Gupta, S.P. (2008). Management accounting (15th Ed.). Agra, India: Sahitya Bhawan Publication, 289-91.*

5.3.2.2 Comparative Balance Sheet

The comparative balance sheet analysis is the study of the trend of the same items, group of items and computed items, in two or more balance sheets of the same business enterprise on different dates. The changes can be observed by comparison of the balance sheet at the beginning and at the end of a period and these changes can help in forming an opinion about the progress of an enterprise. Such a balance sheet is very useful in studying the trends in an enterprise. Balance sheets as on two or more different dates are used for comparing the assets, liabilities and the net worth of the company. The comparative balance sheet is useful for studying the trends of an undertaking. Increase and decrease in various assets and liabilities as well as in proprietor‘s equity or capital brought about by the conduct of a business, can be observed by comparison of balance sheets at the beginning and end of the period. The format of Common Size Income Statements and Balance Sheet are as follows:

Table 5.4: Format of Comparative Balance Sheet

Particulars	Year Ended		Increase / Decrease (Absolute)	Increase / Decrease (Percentage)
	Current Year	Previous Year		
Liabilities and Capital				
Share Capital & Reserve	-	-	(+ / -)	(+ / -) %
Current Liabilities	-	-	(+ / -)	(+ / -) %
Long Term Liabilities	-	-	(+ / -)	(+ / -) %
Total	-	-	(+ / -)	(+ / -) %
Assets	-	-		
Current Assets	-	-	(+ / -)	(+ / -) %
Fixed Assets	-	-	(+ / -)	(+ / -) %
Other Assets	-	-	(+ / -)	(+ / -) %
Total	-	-	(+ / -)	(+ / -) %

Source: *Gupta, S.P. (2008). Management accounting (15th Ed.). Agra, India: Sahitya Bhawan Publication, 289-91.*

5.3.3 Trend Analysis

Trend analysis technique is useful to analyse the firm financial position and to put the absolute figures of financial statement in more comprehensible form over a period of years.It is the procedure of comparing business data over time to identify any consistent results or trends**.** This method determines the direction upwards and

downwards and involves the computation of the percentage relationship that each statement item bears to the same item in base year. For this purpose, a base year is selected and the amount of the item relating to the base year is taken equal to a hundred and Index number are computed for other years based on the amount of item relating to the base years based on the amount of that item in those years. It shows the direction in which concern is going.

5.3.4 Cash Flow Analysis

A cash flow statement is a financial statement that shows us the exact sources of the business funds obtained during a period and the uses to which these funds are applied. A cash flow statement is, thus, an analytical tool for analyzing the inflow and outflows of funds in the business during a given accounting period. It explains the causes of net change in the cash balance, by comparing balance sheets falling on two consecutive periods. It analyses changes in cash and cash equivalents during a period. It is a statement that shows how changes in balance sheet and income statement affect cash and cash equivalents and breaks the analysis down to operating, investing and financing activities. Essentially, the cash flow statement is concerned with the flow of cash in and out of the business. The statement captures both, the current operating results and the accompanying changes in the balance sheet. As an analytical tool, the statement of cash flows is useful in determining the short-term viability of a company, particularly its ability to pay bills. According to AS-3, the cash flow statement should report cash flows during the period classified into three main categories:

1. Cash flows from operating activities.
2. Cash flows from investing activities.
3. Cash flows from financing activities.

The basic information required for the preparation of a cash flow statement is obtained from the following three sources:

1. Comparative balance sheets at two points of time.
2. Income statement of the current accounting period.
3. Some selected additional data to extract the hidden transactions.

5.3.5 Fund Flow Analysis

In the words of Foulke, R. A., (quoted by Gupta and Sharma, 2005), "A statement of source and application of fund is a technical device designs to analysis the changes in

the financial condition of business enterprises between two dates". The term Fundflow refers to changes or movement of funds or changes in working capital in the normal course of business transactions. The changes in working capital may be in the form of inflow of working capital or outflow of working capital. In other words, any increase or decrease in working capital when the transactions take place is called as "Flow of Funds." If the components of working capital results in increase of the fund, it is known as Inflow of Fund or Sources of Fund. Similarly, if the components of working capital effects in decreasing the financial position it is treated as Outflow of Fund.

This statement reveals resources from which funds were obtain by the firm hand the specific uses to which such funds were applied. The effectiveness of financial management in procuring funds from various sources and using them effectively for generating income without sacrificing the financial position of the firm is reflected in fund flow statement.

5.3.6 Ratio Analysis

A ratio expresses the results on the basis of comparison of two figures in numerical terms. A ratio is a statistical yardstick that provides a measure of relationship between two accounting figures. A financial ratio or accounting ratio is a relative magnitude of two selected numerical values taken from an enterprise's financial statements. Often used in accounting, there are many standard ratios used to evaluate the overall financial condition of a corporation or other organization. ("Financial Ratio", n.d). Financial ratios are an excellent and scientific way to analyze firm's financial position. They are important indicators and are widely used to summarize the information in a company's financial statements in assessing and evaluating its financial health. In financial analysis, ratios are used as yardstick for evaluating the financial position and performance of business firms. The relationship between two accounting figures, expressed mathematically, is known as a financial ratio (or simply as a ratio). The point to note is that a ratio indicates a quantitative relationship, which can be, in turn, used to make a qualitative judgement (Pandey, 1995).Generally liquidity ratio, solvency ratio, profitability ratio and efficiency ratio are highly useful in determining financial performance and financial healthof business enterprises.

The ratio analysis is most widely used tool in appraisal of financial performance. It is a technique of analysis and interpretation of financial position of a company. It is used

as a device to analyze and interpret the financial health of enterprises (Sharma & Gupta, 2008). Ratio analysis describes whether the firm's financial position is sound, the capital structure is in proper shape, the profitability is satisfactory, the credit policy in relation to sales and purchase is sound and the company is credit worthy or not. It highlights the liquidity, solvency, profitability and market position of a business concern (Sharma & Gupta, 1995). Ratio analysis is the process of determining and presenting in arithmetical terms the relationships figures and groups of figures drawn from these statements.

5.3.6.1 Meaning of Ratio Analysis

Ratio analysis is a technique of analysis, comparison and interpretation of financial statements. It is processes through which various ratios are calculated and on that basis conclusion are drawn which become the base of managerial decisions(Gupta, 2008). It involves four steps:

1. **Selection of relevant data:** First of all,relevant data are selected from financial statements depending upon the objective of the analysis.
2. **Calculation of ratios:** On the basis of data selected, appropriate ratios are calculated according to objective or need of the study.
3. **Comparison of ratios:** The calculated ratios are compared with the ratios of the same firm in past or the ratios of other firms or with the ideal standard of relevant ratios
4. **Interpretation of ratios:** In the end, conclusions are drawn on the basis of study and comparison of ratios.

5.3.6.2 Advantages of Ratio Analysis

Ratio analysis is an important technique of financial analysis. It is an accounting tool which presents complicated accounting variables in simple, concise and understandable form. It also provides useful indications related to financial health and operational efficiency of the business concern (Gupta, 2008).

1. **Useful in simplifying accounting figures:** Accounting ratiossimplify, summarize and systematize the accounting figure so that they may be understood properly and conveniently.
2. **Useful in Financial Position Analysis:** Accounting ratios provide the knowledge of the financial position of the concern which, on the other hand, is useful in taking decision by the firm itself and on the other hand provides

necessary information to banks, financial institutions,investors and researchers for making investment decisions.

3. **Useful in assessing the Operational Efficiency:** Accounting ratios are useful in assessing the efficiency and performance of the firm.
4. **Measurement of the profitability:**Management is constantly concerned about the overall profitability of the enterprise. Profitability of the business can be measure by calculating gross profit, net profit, expenses and other ratios. That is, they are concerned about the ability of the firm to meet its short-term as well as long term obligations to its creditors, to ensure a reasonable return to its owners and secure optimum utilization of the assets of the firm (Khan & Jain, 1999).
5. **Aids in forecasting and budgeting:** Accounting ratios provide a reliable data, which can be compared, studied and analyzed. These ratios provide sound footing for future forecasting. The ratios that are derived after analyzing and scrutinizing the past result, helps the management in setting up future financial plans and forecasting. Theyalso helps in determining future line of action.
6. **Helpful in communication and coordination:** the financial strength and weaknesses of a firm can easily be communicated by the use of ratios to those whom it meant. Such communication does help in better coordination between various departments of a firm (Gupta & Sharma, 2005).
7. **Useful in comparative study.** Accounting ratios provides the base for comparative study of financial efficiency. Such comparison may be made between different years of a firm or between different firm of a particular industry or with the average ratio of the same industry (Gupta, 2008).
8. **Useful in control:** Ratio analysis also helps in making effective control of the business. After calculation of accounting ratios variances, if any, can be found by comparing them with standard or ideal level of these ratios and necessary corrective actions may be taken for resolving these variances.

5.3.6.3 Limitations of Ratio Analysis

The ratio analysis is one of the important tools of financial management. The ratios though indicate profitability, efficiency and financial soundness, but they are not the solution of all problems and the analyst must take into account these limiting factors

while using the ratio analysis. Accounting ratios suffer from the following limitations (Gupta, 2008).

1. **False Results:** Ratios are calculated from the figures appearing in the financial statements. In case, if original figures are not true and fair, ratios calculated will also be false and defective
2. **Window dressing:** Window dressing means manipulation of records in a way so as to conceals vital facts and presents the financial statements in such a way to show better position than what it actually is. Window dress restricts the utility of ratio analysis. Financial statements can easily be window dressed to present a better picture of its financial and profitability position to outsiders. Hence, one has to be very careful in making a decision.
3. **Misleading result in the absence of absolute Data:** Sometimes, in the absence of absolute data the ratios give a misleading image of a firm. If gross profit ratio of two firms is 25%, it may be just possible that the gross profit of one is Rs. 2500 and sales Rs 10000, whereas the gross profit of the other firm is Rs 500000 and sales is Rs. 2000000. Profitability of the two firms is the same but the magnitude of their business is quite different.
4. **Personal bias:** Ratios are only means of financial analysis and not an end in itself. An important aspect of ratio analysis is proper interpretation of ratios but different analysts may interpret the same ratio in different ways.
5. **Not as substitute of financial statements:** Ratio analysis is only a tool of studying financial statements and it cannot become substitute of these statements. In other words, "Ratios are meaningless if detached from the details from which are derived."
6. **Ignores qualitative factors:** Accounting ratios are, as a matter of fact, tools of quantitative analysis but only on account of it sometimes qualitative elements may be ignored.

In the present study, different accounting ratios under categories such as liquidity, solvency, activity and profitability have been used to analysis the financial performance of CCI Ltd. Furthermore Altman Z-model and Du-Pont Analysis have been applied to assess the financial health of the company under study.

5.4 FUNCTIONAL CLASSIFICATION OF ACCOUNTING RATIOS

A detailed account of functional classification of accounting ratio and techniques used in the present study has been discussed as follows.

1. Liquidity Ratios
2. Long Term Solvency and Leverage Ratios
3. Activity Ratios
4. Profitability Ratios

5.4.1 Liquidity Ratios

Liquidity Ratios are used to measure the short-term solvency of a business firm. They show the ability of the company to quickly convert its assets into cash to pay its short-term debts. The short term obligations are met by releasing amounts from current, floating or circulating assets. The sufficiency or insufficiency of current assets should be assessed by comparing them with short term liabilities. Liquidity refers to the ability of a concern to meet its current obligations as and when these become due (Gupta & Sharma, 2014). Liquidity means an ability of an asset to be converted to cash quickly at low cost. It measures a firm's ability to pay its current debts on time. Assets that may be converted into cash in a short period of time are referred to as liquid assets. They are listed in financial statements as current assets.To measure the liquidity of a firm, the following ratios can be calculated.

a. Current Ratio

This ratio indicates the short term financial soundness of the company. It judges whether current assets are sufficient to meet the current liabilities. A ratio of less than one is often a cause for concern, particularly if it persists for any length of time. A ratio equal or near to the rule of thumb of 2:1 is considered to be satisfactory (Gupta & Sharma, 2014). The formula of current ratio is:

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

b. Liquid Ratio

This ratio is also known as acid test ratio or quick assets ratio.It measures the ability of a company to pay its current liabilities when they come due with only quick assets. Quick assets are current assets that can be converted to cash within 90 days or in the short-term. Cash, cash equivalents, short-term investments or marketable securities,

and current accounts receivable are considered as quick assets. It is very useful to check the liquidity position of a firm. The formula of liquid ratio:

$$\text{Quick, Liquid or Acid test Ratio} = \frac{\text{Quick or Liquid Assets}}{\text{Current Liabilities}}$$

Sometimes bank overdraft is not included in current liabilities, in such cases,

$$\text{Quick, Liquid or Acid test Ratio} = \frac{\text{Quick or Liquid Assets}}{\text{Quick or Liquid Liabilities}}$$

As a rule of thumb, Liquidity ratio of 1:1 is generally considered satisfactory, as the liquid assets will be considered sufficient to meet the current liabilities.

c. Absolute Liquid Ratio or Cash Ratio

The cash ratio is the ratio of a company's total cash and cash equivalents to its current liabilities. It can therefore determine if, and how quickly, the company can repay its debt. The cash ratio is generally a more conservative look at a company's ability to cover its liabilities than many other liquidity ratios. A company's most liquid assets are its holdings of cash and marketable securities. That is why researcher also looks at the cash ratio.

$$\text{Absolute Liquid Ratio} = \frac{\text{Absolute Liquid Assets}}{\text{Current Liabilities}}$$

OR

$$\text{Absolute Liquid Ratio} = \frac{\text{Cash \&bank + short term securities}}{\text{Current Liabilities}}$$

The acceptable norm of this ratio is 1:2 or 0.50:1

5.4.2 Profitability Ratios

Business accounting defines profit as "the excess of total revenue over total costs" over a period of time. Profitability Ratios measure the overall earnings performance of a company and its efficiency in utilizing assets, liabilities and equity. Generally, profitability ratios are calculated either in relation to sales or investments. Profitability ratios related to sales include Gross Profit Ratio and Net Profit Ratio while in terms of investment, it consist of return on capital employed and return on net worth. In the words of Keynes, Lord (quoted by Gupta and Sharma: 2005) "profit is the engine that drives the business enterprise"

a. Gross Profit Ratio

Gross profit is a company's total revenue which is equivalent to total sales minus cost of goods sold. Gross profit is the profit a company makes after deducting the all costs

associated with manufacturing its products or providing a service. However, the gross profit would be satisfactory to cover operating expenses and to afford for fixed charges, dividends and building up of reserves.

$$\text{Gross Profit Ratio} = \frac{\text{Gross Profit}}{\text{Net Sales}} \times 100$$

There is no standard norm for judging the gross profit ratio

b. Operating Ratio

The operating ratio is a financial term defined as a company's operating expenses as a percentage of revenue. It establishes the relationship between cost of goods sold and other operating expenses on the one hand and the sales on the other hand. It measures the cost of operations per rupee of sales (Gupta & Sharma, 2014). The operating ratio can be used to determine the efficiency of a company's management by comparing operating expenses to net sales. It describes the relationship between total operating expenses and sales of the company. This ratio is used to measure the operational efficiency of the management. A low operating ratio indicates high profit margins i.e., more operating profit. Lower operating ratio shows the higher profit vice versa ("Operating ratio", n.d.). The formula of Operating ratio is as follows:

$$\text{Operating Ratio} = \frac{\text{Operating Cost}}{\text{Net Sales}} \times 100$$

OR

$$\text{Operating Ratio} = \frac{\text{Cost of goods sold} + \text{Operating Expenses}}{\text{Net Sales}} \times 100$$

Where,

Operating Cost = Cost of Goods Sold + Operating Expenses (Gupta & Sharma, 2014).

c. Net Profit Ratio

This ratio represents the relation of net profit to net sales. Net profit is calculated by deducting total expenses from total revenue of the business concern. The net profit ratio is the overall extent of a firm's ability to turn each rupee of sales into profit. This ratio helps in determining the efficiency with which affairs of the business are being managed. An increase in the ratio over the previous period indicates improvement in the operational efficiency of the business provided the gross profit ratio is constant and is calculated as:

$$\text{Net Profit Ratio} = \frac{\text{Net profit after Tax}}{\text{Net Sales}} \times 100$$

Higher the ratio the better is the profitability, but the performance of the profit must also be seen in relation to investments of the firm while interpreting the ratio.

d. Return on Capital Employed

Return on capital employed measuresthe relationship between the profit and the capital employed. The term 'capital employed' refers to the total of investments made by a business firm and it can be computed in two ways. First, it is equal to non-currentliabilities (long term liabilities) plus owners'equity. Alternatively, it is equivalent to net working capital plus fixed assets. Second, it is equal to long term funds minus investments made outside the firm. Thus, the capital employed basis provides a test of profitability related to the sources of long term funds (Mumtaz, 2012). A comparison of this ratio with similar firms, with the industry average and overtime would provide sufficient insight into how efficiently the long term funds of owners and lenders are being used.

$$\text{Return on Shareholders}' \text{Investmentt} = \frac{\text{Net Profit (after interest \&tax)}}{\text{Shareholders}' \text{Fund}}$$

The higher the ratio the more efficient is the use of capital employed(Khan & Jain 2011).

Where,

Capital Employed = Fixed Assets + Current Assets – Current Liabilities

e. Return on Assets

This ratio is also known as ROA. It is the relationship between not profit (after taxes) and assets employed to earn that profit. It is calculated as:

$$\text{Return on Assets} = \frac{\text{Net profit after tax}}{\text{Average Total assets}}$$

or,

$$\text{Return on Assets} = \frac{\text{Net profit after tax}}{\text{Average Tangible assets}}$$

or,

$$\text{Return on Assets} = \frac{\text{Net profit after tax}}{\text{Average fixed assets}}$$

f. Return on Net Worth

Return on Shareholders' Investment, also known as Return on Shareholder/ Proprietors Funds or ROI, is the relationship between net profits after interest and tax and the proprietor's funds.It determines the earning capacity related to owners capital or investment. It measures how much return the company can generate for its equity shareholder's.

$$\text{Return on Shareholders' Investmentt} = \frac{\text{Net Profit (after interest \&tax)}}{\text{Shareholders' Fund}}$$

As the primary objective of business is to maximize its earning, this ratio indicates the extent to which this primary objective of business is being achieved. As this ratio reveals how well the resources of a firm are being used, higher the ratio, better are the results.

5.4.3 Solvency Ratios

Solvency ratios present the ability of a concern to meet its long term obligations. These ratios help in assessing the risk arising from the use of debt capital. Two types of ratios are commonly used to analysis financial leverage i.e. structural ratios and coverage ratios. The structural ratios are based on the proportions debt and equity like Debt to Equity ratio and Debt to Assets ratio while the coverage ratios show the relationship between debt servicing commitments and the sources for meeting these burdens (Chandra, 2011).

a. Debt-equity ratio

The D/E ratio is an important tool of financial analysisto appraise the financial structure of a firm. It is an important implication from the view point of the creditors, owners and the firm itself.The debt to equity ratio shows how the firm finances its operations with debt relative to the book value of its shareholders equity (Khan & Jain 2011).

$$\text{Debt Equity Ratio} = \frac{\text{Outsiders' Funds}}{\text{Shareholders' Funds}}$$

A ratio of 1:1 may be usually considered to be a satisfactory ratio although there cannot be any 'rule of thumb' or standard norm for all types of businesses. In some business a high ratio 2:1 or even more may be considered satisfactory.

b. Interest Coverage Ratio

The interest coverage ratio measures the ability of a company to pay the interest on its outstanding debt. This measurement is used by creditors, lenders, and investors to determine the risk of lending funds to a company. A high ratio indicates that a company can pay for its interest expense several times over, while a low ratio is a strong indicator that a company may default on its loan payments ("Interest Coverage", n.d.).

$$\text{Interest Coverage Ratio} = \frac{\text{Net Profit (before interest and taxes)}}{\text{Fixed interest Charges}}$$

c. Proprietary Ratio

Proprietary Ratio establishes a relationship between shareholder's funds and the total assets of the firm. It is an important ratio for determining long term solvency of the firm (Pillai and Bagavathi, 2008).

$$\text{Proprietary Ratio or Equity Ratio} = \frac{\text{Shareholders' funds}}{\text{Total Assets}}$$

Higher the ratio better is the long term solvency position of the firm.

5.4.4 Turnover ratios

Turnover ratios also referred to as activity ratios or assets management ratios, measure how efficiently the assets are employed by the firm. These ratios are based on the relationship between the levels of activity, represented by the sales or cost of goods sold and the levels of various assets (Chandra, 2011). The main functions of these ratios are to judge the work performance of the enterprise and effectiveness of managerial decisions. In other words, these ratios help to evaluate how well facilities and services available at the disposal of the firm are being used or to measure the effectiveness with which a firm uses the resources and its disposal and implements its purchase, sales and other financial policies. These ratios are usually calculated on the basis of sales or cost of sales and are expressed in integers or times or rate of turning over a rotation. The greater ratio the more will be efficiency of asset usage. The lower ratio reflects the underutilization of the resources available at the disposal of the firm. It may also be mentioned that all these ratios indicate the briskness with which the business activities are being carried on.The following are the important turnover ratios.

a. Inventory/Stock Turnover Ratio

This ratio indicates the efficiency of the firm in selling its product. Inventory turnover ratio is also known as stock velocity or inventory ratio. This ratio established relationship between the cost of goods sold during a given period of time and the average amount of inventory carried during that period. Thus this ratio reveals the number of times finished stock has been turned over during a given accounting period. The inventory turnover reflects the efficiency of inventory management. The ratio is directly proportional to the efficiency of management of inventories. However, this may not always true (Chandra, 2011). The formula of STOR is as follows

$$\text{Inventory Turnover Ratio} = \frac{\text{Cost of Goods Sold}}{\text{Average Inventory at Cost}}$$

A low inventory turnover ratio indicates an inefficient management of inventory. A low inventory turnover implies over investment in inventories. A too high turnover of inventory may not necessarily always imply a favourable situation.

b. Debtors Turnover Ratio

These ratios are computed to evaluate the quality of debtors. Debtors turnover ratio indicates the velocity of debt collection of firm.

$$\text{Debtors Turnover Ratio} = \frac{\text{Net Credit Annual Sales}}{\text{Average Trade Debtors}}$$

Trade Debtors = Sundry Debtors + Bills Receivables and Accounts Receivables

Average Trade Debtors = Opening Trade Debtors + Closing Trade Debtors/2

There is no rule of thumb to interpret the ratio. Generally, higher ratio implies efficient management and low ratio implies inefficient management. The average collection period represents the average number of days for which a firm has to wait before its receivables are converted into cash. The ratio can be calculated as follows:

$$\text{Average Collection Period} = \frac{\text{Average Trade Debtors}}{\text{Sales Per Day}}$$

$$\text{Average Collection Period} = \frac{\text{Number of Working Days}}{\text{Debtors Turnover Ratio}}$$

Generally, the shorter the average collection period the better is the quality of debtors while a higher collection period implies as inefficient collection performance.

c. Working Capital Turnover Ratio

This ratio indicates whether or not working capital has been effectively utilized in making sales. In other words, it indicates the number of times the working capital is rotated in the course of a year. A higher ratio indicates efficient utilization of working capital and a low ratio indicates otherwise. But a very high working capital turnover ratio is not a good situation for any firm and hence care must be taken while interpreting the ratio (Gupta and Sharma: 2005). This ratio can be calculated as:

$$\text{Working Capital Turnover Ratio} = \frac{\text{Cost of Sales}}{\text{Average Working Capital}}$$

$$\text{Average Working Capital} = \frac{\text{Opening Working Capital} + \text{Closing Working Capital}}{2}$$

d. Total assets turnover ratios

The total asset turnover ratio measures the ability of a company to use its assets to efficiently generate the sales. This ratio considers all assets, current and fixed.

$$\text{Assets Turnover Ratio} = \frac{\text{Sales}}{\text{Total Assets}}$$

5.5 DU-PONT ANALYSIS

Du Pont analysis is a common form of financial statement analysis, based on analysis of Return on Equity (ROE) & Return on Investment (ROI) (Sheela & Karthikeyan, 2012). Du-Pont analysis takes into account three indicators to measure firm profitability i.e. ROS, ROA and ROE (Soliman, 2008). Donaldson Brown developed a formula for monitoring business performance that combined earnings, working capital and investments in plants and property into a single measure which termed as return on investment. It later became known in academic and financial circles as the Du-Pont analysis (or Model). The DuPont model measures the financial performance of a business concern on the basis of accounting income concept. It is a useful system of analysis which considers important relationships based on information found in financial statements. The elegance of ROA being affected by a profitability measure and an efficiency measure led to the Du-Pont method becoming a widely-used tool of financial analysis (Liesz, 2002). The model advocates that Return on Investment (ROI) is the best in measuring overall financial performance. All activities of company contribute to the ROI. It has been adopted by many firms in some form or the other (Chandra, 2011). ROI represents the earning power of the company. DuPont

model provides a broader picture of return the company is earning on its equity (Pandey, 2005). The Du-Pont analysis provides a starting point for determining the strengths and weaknesses of a company. In Du-Pont analysis, return on equity disaggregates performance into three components i.e. Net Profit Margin, Total Asset Turnover and the Equity Multiplier (Sheela and Karthikeyan, 2012). The formula of Du-Pont Model is as follows:

Return on Equity = Net Profit Margin x *Assets Turnover* x *Financial Leverage*

Where,

Net Profit Margin = Net Profit / Total Sales

Assets Turnover = Total Sales / Total Assets

Equity Multiplier = Total Assets / Shareholders' Fund

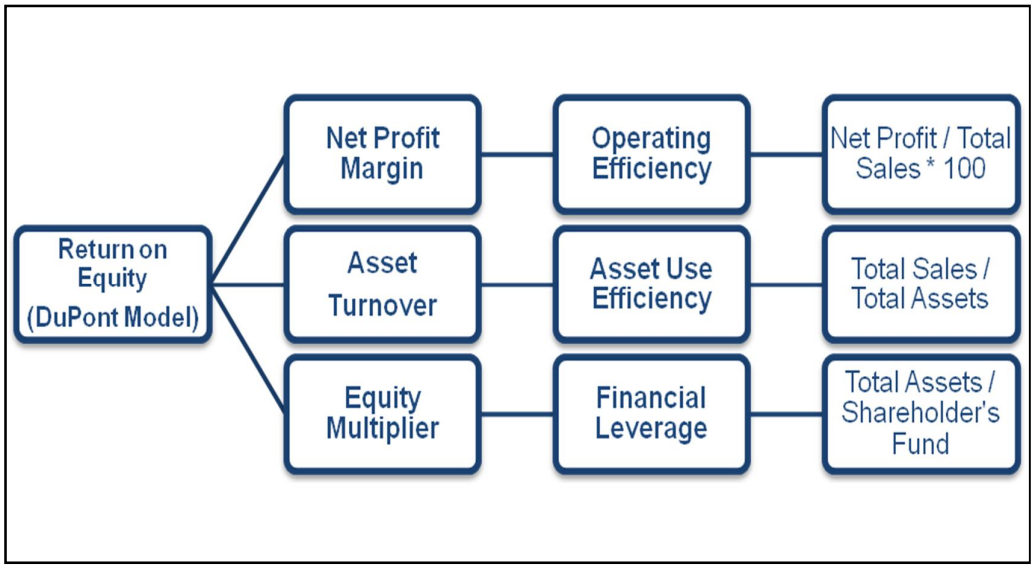
A firm can convert impressive RONA (Return on Net Assets) into an impressive ROE through financial efficiency. It is observed that ROE affected the financial leverage and combination of debt and equity. Therefore, ROE is a product of RONA and financial leverage ratios reflect the operating efficiency (Pandey, 2005).

Du-Pont analysis is an extended analysis of a company's return on equity. It concludes that a company can earn high return on equity, if it earns a high net profit margin, it uses its assets effectively to generate more sales and it has a high financial leverage. Du-Pont equation could be further extended by breaking up net profit margin into EBIT margin, tax burden and interest burden. With this method, assets are measured at their gross book value rather than at net book value in order to produce higher return on equity (ROE). Du-Pont analysis tells us that ROE is affected by three things:

- Operating efficiency, measured by Profit Margin
- Asset use efficiency, measured by Asset Turnover
- Financial leverage, measured by the Equity Multiplier

Du-Pont Analysis examines Return on Equity (ROE) by breaking it into three main components: Profit margin, Asset turnover and Equity multiplier.

Chart 5.3: Du-Pont Model



Source: *Wayne (n.d.)*

The three-step DuPont model captures management's effectiveness at generating profits (net profit margin), managing assets (asset turnover) and finding an optimal amount of leverage (equity multiplier). Ideally, one would like to see a company boosting its ROE by increasing its net margin or its asset turnover.

5.5.1 Net Profit Margin

Net profit margin is used to assess the profitability of a concern. The net profit margin (or net margin) of a company reflects management's pricing strategy by showing how much earnings they can generate from a single rupee of sales. Companies must be able to price their products and services in such a way as to drive volume. Net margins vary from company to company and historically, certain ranges can be expected across industries. Therefore, it is important to compare the ROEs and other financial ratios of companies in similar lines of business, as similar business constraints exist in each distinct industry (Thorp, n.d).

$$\text{Net Profit Ratio} = \frac{\text{Net profit after Tax}}{\text{Net Sales}} \text{ x } 100$$

5.5.2 Asset Turnover

Return on Assetsreveals how much profit a company earns for every rupees of its assets. Assets include things like cash in the bank, accounts receivable, property, equipment, inventory and furniture (Herciu, Ogrean & Belascu, 2011). The formula of asset turnover is as follows:

$$\text{Assets Turnover} = \frac{\text{Sales}}{\text{Total Assets}}$$

5.5.3 Equity Multiplier

The equity multiplier is the ratio of a company's total assets to its stockholders' equity. The ratio is intended to measure the extent to which equity is used to pay for all types of company assets. If the ratio is high, it implies that assets are being funded with a high proportion of debt. Conversely, if the ratio is low, it implies that management is either avoiding the use of debt or the company is unable to obtain debt from prospective lenders.The formula for the equity multiplier ratio is:

$$\text{Equity Multiplier} = \frac{\text{Total Assets}}{\text{Shareholders' Equity}}$$

5.6 ALTMAN Z SCORE MODEL

Altman's Z is one of the best known, statistically derived predictive models used to forecast a firm's impending bankruptcy. Edward Altman, a financial economist and professor at New York's Stern School of Business, developed Altman's Z-Score model in 1968. The Z-Score gained acceptance by auditors, management accountants, and database systems beginning in the mid-1980s (Hayes, Hodge & Hughes, 2010). The model has proven to be a dependable instrument in forecasting failure in a diverse mix of business entities. The Z score model is the first multivariate credit scoring model. The model predicts the likelihood that a firm will go bankrupt by combining five financial ratios and market value measures to produce the Z-Score, which involves measuring how closely a firm resembles other firms that have filed for bankruptcy. This allows the user to classify firms as either distressed (high risk of bankruptcy) or non-distressed. It should be noted that the original Z-Score model was primarily for manufacturers (Aasen, 2011). Altman's original Z-Score was based on a sample of 66 publicly held manufacturing companies. Half of the companies were distressed manufacturers that had filed for bankruptcy from 1946 through 1965, while the other half were randomly selected non-bankrupt companies from the same time period. The asset size of the companies ranged from $1 million to $25 million (Altman, 2000).

The final discriminate function estimated by Altman (1968) is as follows:

$$Z = 0.012 \cdot X1 + 0.014 \cdot X2 + 0.033 \cdot X3 + 0.006 \cdot X4 + 0\ .999 \cdot X5$$

Where,

X1 = Working capital/Total assets

X2 = Retained Earnings/Total assets

X3 = Earnings before interest and taxes/Total assets

X4 = Market value of equity/Book value of total liabilities

X5 = Sales/Total assets

Z = Overall Index

The original Z-Score Model was based on the market value of the firm and was thus applicable only to publicly traded companies. In 1983 Altman emphasized that the Z-Score Model is a publicly traded firm model and ad hoc adjustments are not scientifically valid. Therefore, Altman in 1983 advocated a complete re-estimation of the model substituting the book value of equity for the market value in X4. Using the same data, Altman extracted the following revised Z'-Score Model. In the present study we used the book value rather than the market value of equity. This model is appropriate for a firm which is not publicly traded, CCI Ltd. is not a listed company,thus the researcher used the revised model of Z score (1983).

$$Z' = 0.717 \cdot X1 + 0.847 \cdot X2 + 3.107 \cdot X3 + 0.420 \cdot X4 + 0\ .998 \cdot X5$$

Where,

X_1= Working capital/Total assets

X_2= Retained Earnings/Total assets

X_3= Earnings before interest and taxes/Total assets

X_4= Book value of equity/Book value of total liabilities

X_5 = Sales/Total assets

Z' = Overall Index ***(Altman 2000).***

5.6.1 Interpretation of Variables used in Altman Z Score

- **X_1: Working Capital/Total Assets:** The working capital/total assets ratio is a measure of the net liquid assets of the firm relative to the total capitalization. Working capital is equal to the difference between current assets and current liabilities, while total assets include both current and fixed assets. In this ratio, liquidity and size characteristics are explicitly taken into account. A firm with consistent operating losses will often have shrinking current assets in relation to total assets.

- **X_2: Retained earnings/Total assets.** The second ratio advocated by Altman (1968) is a (cumulative) profitability ratio. Interestingly, this is a "new" ratio that was proposed by Altman himself. Retained earnings are the account which reports the total amount of reinvested earnings and/or losses of a firm over its entire life. The account is also referred to as earned surplus. A lower Retained earnings/Total assets ratio is expected for younger firms because they did not have time to grow and build up their cumulative profits. Hence one may correctly expect that younger firms will, ceteris paribus, more probably be classified as bankrupt relative to older firms. With this ratio one would expect a negative relation with bankruptcy or a positive relation with non-bankruptcy, as negative profits, which affect a firm negatively, decrease retained earnings relative to total assets.
- **X_3: Earnings Before Interest and Taxes/Total Assets**: This ratio illustrates the productivity of the company's assets before tax or leverage factors are taken into consideration. Firms depend on operating efficiently through the earning power of its assets in order to have long-term viability. Return on total assets appears to be particularly appropriate for predicting bankruptcies, since it has the highest weighting in each of the Z-Score models.
- **X_4: Market Value of Equity/Book Value of Equity to Total Debt**: In private firms the stock is not being traded publicly that's why the book value of equity has been calculated instead of calculating the market value.
- **X_5: Sales/Total Assets**: The capital-turnover ratio is a standard financial ratio illustrating the sales generating ability of the firm's assets. It is one measure of management's capability in dealing with competitive conditions. This final ratio is quite important because, as indicated below, it is the least significant ratio on an individual basis. In fact, based on the statistical significance measure, it would not have appeared at all. However, because of its unique relationship to other variables in the model, the Sales/Total assets ratio ranks second in its contribution to the overall discriminating ability of the model (Chouhan, Chandra & Goswami, 2014).

Table 5.5: Critical values of Altman's Z Score Model

SCORE	ZONE	RESULT
< 1.23	***Bankrupt***	There is a high probability that the business will face financial distress in near future and the business may need desperate measures to survive in the market
1.23 to 2.90	***Grey***	The firm falls in the gray area that means there is less probability that the firm will face financial distress in the near future.
> 2.90	***Healthy***	The business is financially sound and there is least probability that the firm will face financial distress

A number of commonly used accounting tools and techniques of financial performance evaluation have been discussed in this chapter. The next chapter deals with analysis and interpretation of financial performance of the CCI Ltd. with the help of Comparative Statement analysis, Common size Statement analysis, Ratio Analysis, Du- Pont analysis and Alman's Z Score Model.

REFERENCES

Aasen, R. M. (2011). *Applying Altman's Z-Score to the Financial Crisis An Empirical Study of Financial Distress on Oslo Stock Exchange*, Doctoral Thesis, Norwegian School of Economics Bergen, 14-45 Retrieved from https://brage.bibsys.no/xmlui//bitstream/handle/11250/169347/Aasen%202011.pdf?sequence=1

Altman, E. I. (2000). *Predicting financial distress of companies: Revisiting the z-score and zeta models.* Retrieved from: http://pages.stern.nyu.edu/~ealtman / Zscores. pdf

Anjum S. (2012). Business bankruptcy prediction models: A significant study of theAltman's Z-score model .*Asian Journal of Management Research, Vol. 3*(1). pp. 212-219.

Banarjee, B. (2008). *Fundamentals of financial management*. New Delhi, India: PHI Learning Private Limited.

Bhunia, A. (2010). Financial performance of Indian Pharmaceutical Industry: A case study. *Asian Journal of Management Research*, 427-451.

Bhunia, A., Mukhuti, S. & Roy, G. (2011). Financial performance analysis: A case study. *Current Research Journal of Social Sciences, 3*(3), 269-275.

Cash flow statement, (n.d). *In Wikipedia.* Retrieved from https://en.wikipedia.org/wiki/Cash_flow_statement on 11-04-2016

Chandra, P. (2011). *Financial management*. New Delhi, India: Tata McGraw Hill Education Private Limited.

Chandra, P. (2011). *Financial management: Theory and practices* (8th Ed.). New Delhi, India: Tata McGraw Hill Education Private Limited.

Chouhan, V., Chandra, B. & Goswami, S. (2014). Predicting financial stability of select BSE companies revisiting Altman Z score, *International Letters of Social and Humanistic Sciences, 26,* 92-105 doi:10.18052/www.scipress.com/ILSHS.26.92

Desai, V. (1999). *The Indian financial system.* Mumbai, India: Himalaya Publishing House Pvt. Ltd.

Edward, I. A. (2014). *Distressed Firm and Bankruptcy prediction in an international context: a review and empirical analysis of Altman's Z-Score Model.* Retrieved from http://pages.stern.nyu.edu/~ealtman/PredFnclDistr.pdf

Financial ratio (n.d). *In Wikipedia*. Retrieved from https://en.wikipedia.org/wiki/Financial_ratio#cite_note-1

Financial statement, (n.d). *In Wikipedia.* Retrieved from https://en.wikipedia .org/w/index.php?title=Financial_statement & oldid=712728126

Goswami, S. & Sarkar, A. (2011). Analysis of financial performance of Tata Steel: A case study. *Zenith International Journal of Multidisciplinary Research,1*(5), 161-174. Retrieved from http://www.zenithresearch.org.in/images/stories/pdf/2011/Sep/11.Vol_01_Issue_05%20Suvarun%20Goswami%20%20Full%20Article.pdf

Groppelli, A. A. & Ehsan, N. (2000). *Finance, 4th ed*. Illinois: Barron's Educational Series, Inc.

Gupta, S. K. & Sharma, R. K. (2005). *Management accounting: Principles and practice*. New Delhi, India: Kalyani Publishers.

Gupta, S. K. & Sharma, R. K. (2014). *Financial management: Theory and practice*. New Delhi, India: Kalyani Publishers.

Gupta, S. P. (2008). *Management accounting* (15th Ed.). Agra, India: Sahitya Bhawan Publication.

Hayes, S. K. Hodge, K. A. Hughes, L. W. (2010). A Study of the Efficacy of Altman's Z to predict Bankruptcy of Specialty Retail Firms Doing Business in Contemporary Times. *Economics & Business Journal: Inquiries & Perspectives (3)*1, 130-134. Retrieved from: http://ecedweb.unomaha.edu/EBJI%202010HayesHodgeHughes.pdf

Herciu, M., Ogrean, C. & Belascu, L. (2011). A DuPont analysis of the 20 most profitable companies in the world. *International Conference on Business and Economics Research*. Kuala Lumpur, Malaysia. Retrieved from http://www.ipedr.com/vol1/10-B00015.pdf

Kennedy, R. D. & McMullen, S. Y. (1999). *Financial statements: Form analysis and interpretation* (4th Ed.). Illinois, USA: Richer D. Irwin Inc.

Kennedy, R. D. & McMullen, S. Y. (1999). *Financial statements: Form analysis and interpretation* (4th Ed.). Illinois: Richer D. Irwin Inc.

Khan, M. Y. & Jain P. K. (1999). *Financial Management.* New Delhi: Tata McGraw-Hill Publishing Company Ltd.

Khan, M. Y. & Jain, P. K. (2011). *Financial Management: Text Problems Cases.* New Delhi: Tata McGraw-Hill Education, Retrived from https://books.google.co.in/books?id=8EVrcABaIloC&dq=financial+management&source=gbs_navlinks_s

Khan, M. Y. & Jain, P. K. (2011). *Financial Management: Text, Problems and Cases, Ed. 6*. New Delhi: McGraw-Hill Education Pvt. Limited. Retrived from https://books.google.co.in/books?id=8EVrcABaIloC

Kulkarni, P. V. (1994). *Financial management: A conceptual approach*. Bombay, India: Himalaya Publishing House Pvt. Ltd.

Liesz, T. J. (2002). *Really modified DuPont analysis: Five ways to improve Return on Equity*. Proceedings of the 2002 SBIDA Conference. Retrieved from: http://www.sbaer.uca.edu/research/sbida/2002/Papers/19.pdf

Maheshwari, S. N. (2000). *Financial management.* New Delhi: Sultan Chand & Sons.

Metcalf, R.W. & Titard, P. L. (1976). *Principles of Accounting*, Philadelphia: W.B. Saunders.

Mumtaz, F. (2012). *How to calculate capital employed with formula*. Capital Employed Formula. Retrieved fromhttp://www.capitalemployedformula.com/

Murthy, J. (2013). Shareholders' Value Creation in IT Sector in India - A comparative study between TCS & Infosys. *Indian Journal of Applied Research*, *3*(11) 299-301, http://www.worldwidejournals.com/ijar/file.php?val =November_ 2013_1383916029_5838e_97.pdf

Operating ratio (n.d). *Accounting for Management*. Retrieved from http://www.accountingformanagement.org/operating-ratio/

Pandey, I. M. (1995). *Financial Management.* New Delhi: Vikas Publishing House Pvt. Ltd.

Pandey, I. M. (2005). *Financial management* (9th Ed.). New Delhi, India: Vikas Publishing House Pvt. Ltd.

Pandey, I. M. (2009). *Financial management* (9th Ed.). New Delhi, India: Vikas Publishing House Pvt. Ltd.

Patel, A. M. (2004). *A performance appraisal of dairy industry in Gujarat*. Ph.D. Thesis, Saurashtra University, Gujarat, India. 75-77. Retrieved from http://etheses.saurashtrauniversity.edu/57/1/patel_am_thesis_com.pdf

Patel, A. M. (2004). *A performance appraisal of dairy industry in Gujarat*. Ph.D. Thesis, Saurashtra University, Gujarat, India. 75-80. Retrieved from http://etheses.saurashtrauniversity.edu/57/1/patel_am_thesis_com.pdf

Peterson, P. P. & Fabozzi, F. J. (1999). *Analysis of financial statements.* New Delhi: John Wiley & Sons.

Pillai, R. S. N. & Bhagvathi. (2008). *Management accounting.* New Delhi: S. Chand & Company Ltd. 35-36.

Soliman, T. M. (2008). Use of DuPont Analysis by Market Participants. *The Accounting Review 83* (3). 823–853. Retrieved from http://faculty.haas. berkeley.edu/kli/papers/Soliman-2008TAR.pdf

Srivastava, R. M. (1979), *Financial Management - Principles and Problems.* Meerut: Pragati Prakashan, 41-44.

Wayne, A. T. (n.d). *Deconstructing ROE: DuPont Analysis., Spreadsheet Corner*. Retrieved from: http://www.aaii.com/computerizedinvesting/article/ deconstructing-roe-dupont-analysis.pdf

Wayne, A. T. (n.d.). *Deconstructing ROE: DuPont analysis.* Computerized Investing. Retrieved from http://www.aaii.com/computerizedinvesting/article/deconstruct ing-roe-dupont-analysis.mobile

Chapter – 6

Data Analysis and Interpretation

6.0 INTRODUCTION

In the last chapter the conceptual framework financial performance analysis of business organizations have been discussed. In this chapter the required tools and techniques have been used to analyze and to evaluate the financial performance of CCI Ltd.

"Financial performance is scientific evaluation of profitability and financial strength of any business concern".Financial analysis is the process of identifying the financial strengths and weaknesses of a concern by properly establishing relationship between the items of the income statement and balance sheet (Gupta and Sharma, 2014). Performance evaluation is usually related to how effectively and efficiently a company can manage its assets, equity, liabilities, revenues and expenses. Financial appraisal is a comprehensive process of making an analytical study of the financial and operational data obtained from the Profit & Loss Account and the Balance Sheet of the company. It is a study of the continuous flow of accounting cycle which is the identification, recording, classification, presentation of financial transaction in financial statements and then analyzing and interpreting these financial statements. The analysis and interpretation of the financial statements provides information that aids the decision making process of business managers, investors, creditors as well as other stakeholders who are interested in knowing the financial status and operating results of the company (Sheela & Karthikeyan, 2012).

6.1 FINANCIAL STATEMENTS ANALYSIS OF CCI LTD.

Financial statement analysis critically examines the relationship between various elements of the financial statements with a view to obtain the necessary and effective information from them. It is a process of scanning the financial statements for evaluating the relationship between the items as disclosed in them, therefore it involves a systemic and critical examination of the information contained in the financial statements with a view to provide an effective and meaningful information to its different users (Debarshi, 2011).

Analysis of financial statements is a systematic process of critical evaluation of the financial information given in financial statements so that these may be understood properly. It is a process of reviewing and analyzing a company's financial statements to make better performance measures. These statements include income statement, balance sheet and statement of cash flows etc. Financial statement analysis is a method or process involving specific techniques for evaluating risks, performance, financial health, and future prospects of an organization. It is used by various stakeholders such as creditors, equity investors, government, public and decision-makers within the organization (Gerald, Ashwin & Dov, 1998).

For the purpose of analysis, individual items are studied and their relationships with other relevant figures are established. Data is sometimes rearranged to have a better understanding of the information with the help of various techniques.

The main purpose behind the financial performance evaluation of CCI Ltd. is to evaluate the profitability and financial soundness of the company. In the present study various methods have been employed to analyze the financial performance of CCI Ltd., which include common size statements analysis, comparative financial statements analysis and ratio analysis.

6.1.1 Common Size Financial Statements Analysis

In common size financial statements analysis, the figures are shown in terms of percentage of total assets, total liabilities and total sales. The total assets are taken as 100 and different assets are expressed as percentage of the total assets. Similarly, various liabilities are expressed in terms of total liabilities. The financial performance of CCI Ltd. has been analyzed with the help of common size financial statements covering the entire study period with four equal intervals of three years between 2005-06 and 2014-15.

In Common Size Income Statement, each item is reported as a reference to the sales of the company. This statement is designed by converting all the items of the income statement into percentage of the total sales. A significant relationship can be established between items of income statement and volume of sale. Income Statement shows overall picture of the financial operations of a company (Sharma & Gupta, 2014). Income Statement shows the overall picture of the financial operations of a company. The analysis of common size statements has been done for the study period

divided into four parts and taking a gap of three years from 2005-06 to 2014-15. The common size income statement analysis of CCI Ltd.is as follows:

Table 6.1: Common Size Income Statement of CCI Ltd.

(Rs. in Lacs)

Particulars	2005-06	2008-09	2011-12	2014-15
Sale	19522 **(100)**	31984 **(100)**	33467 **(100)**	40410 **(100)**
Cost of Sale	15677 (80.30)	16631 (51.99)	20569 (61.46)	27171 (67.23)
Gross Profit	3845 (19.69)	15317 (47.88)	12898 (38.53)	13239 (32.76)
Operating Expenses	13740 (70.38)	10647 (33.28)	13920 (41.59)	14662 (36.28)
Operating Profit	-9895 (-50.68)	4670 (14.60)	-1022 (-3.05)	-1423 (-3.52)
Other income and extraordinary items	94253 (482.80)	4360 (13.63)	3876 (11.58)	5728 (14.17)
EBIT	84358 432.118	9030 (28.23)	2854 (8.52)	4305 (10.65)
Interest paid	1152 (5.90)	3737 (11.68)	911 (2.72)	297 (0.73)
Profit Before Tax	83208 (426.2)	5290 (16.53)	1943 (5.80)	4008 (9.91)
Tax	23 (0.11)	37 (0.11)	0 0	0 0
Profit After Tax	83185 (426.10)	5254 (16.42)	1943 (5.80)	4008 (9.91)

Source: *Calculated from Annual Reports of CCI Ltd. from 2005-06 to 2014-15*
(Figures shown in brackets present the contribution of each item to sale)
(Figures of each item of income statement have been taken into consideration for a three years gap)

Table 6.1 exhibits the Common Size Income Statement of CCI Ltd. from 2005-06 to 2014-15.It shows cost of sales of the company has been more than half of total sales throughout the study period. The cost of goods sold was 15677 Lacs, 80.30 per cent of total sales, in 2005-06. It declined to 51.99 per cent in 2008-09 and finally it stood at 67.23per cent in 2014-15. From the above table it was revealed that the maximum revenue of CCI Ltd. has been utilized on the direct expenses and therefore, a high cost of goods sold led to low gross profit margin.

It is perceived from the analysis that the company is more attentive on expanding sales than profit margins and consequently despite of robust growth in sales, the company's profitability remains a matter of concern. The gross profit of CCI Ltd. was Rs.3845 Lacs, which was 19.69 per cent of the sales in 2005-06, which was increased to 47.88 per cent and reached to Rs.15317, the highest level of the profit, in 2008-09 .Further, in remaining study period, due to high cost of sales, gross profit declined to 38.53 per cent in 2011-12 and finally reached to 32.76 per cent in 2014-15. Due to expansion of its business operations, the Operating expenses of the company were very high in the initial years of the study, as it was Rs.13740 Lacs, which was 70.38 per cent of sales in 2005-06. In 2007-08 it had declined to 33.28 per cent, which means that the company controlled and cut off the expenses .Further it again increased to Rs.13920 Lacs, which was 41.59 per cent of sales in 2011-12and finally declined and reached to 36.28 per cent in 2014-15.In the year 2005-06 of the study, the operating profit of CCI Ltd. was negative (Rs.-9895 Lacssor50.68 per cent of sales), which increased to Rs.4670 Lacs (14.60 per cent of the sales) in 2008-09. While in remaining years it again reached to negative figures. It was Rs. (-) 1423Lacs due to high operation expenses.

The other income of CCI Ltd. has played an important role in profitability of CCI Ltd. In 2005-06, the other income of CCI Ltd. was very high (Rs. 94253 Lacs) which is 482.80 Percent of sales. Further, it declined to 14.17 per cent in 2014-15.

Earnings before Interest and Taxes followed the same pattern as other income. It was 432.11 per cent in 2005-06, which declined to 10.65 per cent of the sales in 2014-15.

The Company paid its highest interest in the year 2008-09, which was Rs. 3737 Lacs or 11.68 per cent of the sales. Further, it declined over the years and reached to only 0.73 per cent in 2014-15 indicating that the company decreased its loans and long term debts during these years.

Profit before tax and profit after remained the same during most of the study period because in 2005-06 and 2008-09 CCI Ltd. paid only 0.11 per cent tax of the sales while in the remaining years of the study, no tax was paid by the CCI Ltd. In 2005-06, CCI Ltd. earned a very high profit after tax of Rs. 83185 Lacs which is 426.10 per cent of the sales. Profit after tax was 16.42 per cent in 2008-09, which decreased to only 9.91 per cent of the sales in 2014-15.

The analysis of common size Balance Sheet has been done for the study period from 2005-06 to 2014-15. It is divided into four parts by taking a gap of three years. The common size income statement analysis of CCI Ltd. is given in table 6.2 as follows:

Table 6.2: Common Size Balance Sheet of CCI Ltd.

(Rs. in Lacs)

Liabilities	**2005-06**	**2008-09**	**2011-12**	**2014-15**
Share Capital	44682 (26.52)	81141 (49.89)	81141 (-52.62)	81141 (-53.91)
Reserve & Surplus	0 0	0 0	0 0	0 0
Shareholder's Fund	44682 (-26.52)	81141 (-49.89)	81141 (-52.62)	81141 (-53.91)
Current Liabilities	23893 (-14.18)	27000 (-16.6)	2620 (-1.7)	6600 (-4.39)
Provisions	11529 (-6.84)	10404 (-6.4)	4302 (-2.79)	1608 (-1.07)
Long Term Debt	88287 (-52.4)	44083 (-27.11)	62453 (-40.5)	61156 (-40.63)
Total Liabilities	123799 (-73.48)	81487 (-50.11)	73075 (-47.39)	69364 (-46.09)
Total Liabilities & Equity	**168481 100**	**162628 100**	**154215 100**	**150505 100**
Assets	**2005-06**	**2008-09**	**2011-12**	**2014-15**
Cash	7003 (-4.15)	25780 (-15.85)	19041 (-12.34)	19649 (-13.05)
Accounts Receivable	1487 (-0.88)	1181 (-0.72)	2186 (-1.41)	761 (-0.5)
Loan & Advances	2544 (-1.5)	3460 (-2.12)	2467 (-1.59)	2719 (-1.8)
Inventory	8863 (-5.26)	11341 (-6.97)	15966 (-10.35)	13615 (-9.04)
Other current assets	0 (0)	0 (0)	0 (0)	0 (0)
Interest Accrued on Investment / Misc. Exp.	0 (0)	0 (0)	0 (0)	0 (0)
Total Current Assets	19897 **(**-11.8)	41763 (-25.68)	40589 (-26.31)	37594 (-24.97)
Property, Plant & Equipment	14681 (-8.71)	12804 (-7.87)	16122 (-10.45)	22637 (-15.04)

Investment	228 (-0.13)	228 (-0.14)	228 (-0.14)	0 (0)
Total Fixed Assets	14909 (-8.84)	13032 (-8.01)	17231 (-11.17)	22637 (-15.04)
Other assets(loss)	133676 (-79.34)	107833 (-66.3)	96167 (-62.35)	90274 (-59.98)
Total Assets	**168481 (100)**	**162628 (100)**	**154215 (100)**	**150505 (100)**

Source: *Calculated from Annual Reports of CCI Ltd. from 2005-06 to 2014-15*
(Figures shown in brackets present the contribution of each item to total Liabilities as well as assets)
(Figures of each item of balance sheet have been taken into consideration for a three years gap)

The above table 6.2 shows the common size balance sheet of CCI Ltd. from 2005-06 to 2014-15. The current assets as well as fixed assets of CCI Ltd. constitute a very low portion of the total assets of the company due to other intangible assets (loss) of the company. The current assets cover the small portion of total assets throughout the study period. It shows that the company does not have enough working capital to meet its short term obligations. The value of current assets was Rs.19897 Lacs in 2005-06, which was 11.80 per cent of total assets. In 2008-09 it increased to Rs 41763 Lacs, which was 22.77 per cent of the total assets and again it slightly increased and covered 26.31 per cent of the total assets in 2011-12. Further, it contributed 24.97 per cent, which was Rs. 36409 Lacs in 2014-15. The fixed assets constitute only 8.84 per cent i.e. Rs 14909 Lacs in 2005-06 which slightly decreased in consecutive years .In 2008-09, it contributed 8.01 per cent which further increased to 15.04 per cent in 2014-15.

Table 6.2 depicts that the contribution of current liabilities in the total liability was 14.18 per cent in 2005-06, which increased to 16.60 per cent in 2008-09. In the year 2011-12, the current liability of the CCI Ltd. declined to Rs.2620 Lacs, which was only 1.70 per cent of total liability. Further, in 2014-15, it again slightly increased to 4.39 per cent.

As can be seen from table 6.2, in 2005-06, the Long term liabilities constituted 52.40 per cent of the total liabilities, which declined over the study period and reached to 40.63 per cent in 2014-15. In 2005-06, the Equity share capital was 26.52 per cent of total liabilities. Its share was increased by twice and reached to 52.62 per cent of total

liabilities in 2007-08 and finally reached to 53.91per cent of the total liabilities, in 2014-15. The reserve and surplus had no share in the total liabilities and remained zero during the study period.

6.1.2 Comparative Statement Analysis of CCI Ltd.: Income Statement and Balance Sheet

Comparative financial statements are prepared to provide time perspective to the consideration of different elements of financial position, income position or both. This is done to make the financial data in a more meaningful way. These statements are prepared to show absolute data of two or more years which determined an increase or decrease in absolute data in value and in terms of percentages (Mohana, 2011). This method is used to analysis the periodic change in the financial performance of a firm at different time periods (Sarngadharan & Kumar, 2011). In the present study analysis of Comparative financial statement of CCI Ltd. has been done by taking three years gap and compares the values of each and every item related to financial statements from 2005-06 to 2014-15.

The analysis of Comparative Income Statement has been done for the study period from 2005-06 to 2014-15. It is divided into four parts by taking a gap of three years. The Comparative Income Statement analysis of CCI Ltd. is given in table 6.3 as follows:

Table 6.3: Comparative Income Statement of CCI Ltd.

(Rs. in Lacs)

Particulars	2005-06	2008-09	%Inc/dec	2011-12	%Inc/dec	2014-15	%Inc/dec
Sale	19522	31948	63.65	33467	4.75	40410	20.75
Cost of Sale	15677	16631	6.09	20569	23.68	27171	32.1
Gross Profit	3845	15317	298.36	12898	-15.79	13239	2.64
Operating Expenses	13740	10647	-22.51	13920	30.74	14662	5.33
Operating Profit	-9895	4670	144.13	-1022	-121.88	-1423	39.24
Other income and extraordinary items	94253	4360	-95.37	3876	-11.1	5728	47.78
EBIT	84358	9030	-89.3	2854	-68.39	4305	50.84
Interest paid	1152	3737	224.39	911	-75.62	297	-67.4
Profit Before Tax	83208	5290	-93.64	1943	-63.27	4008	106.28
Tax	23	36	56.52	0	-100	0	0
Profit After Tax	83185	5254	-93.68	1943	-63.02	4008	106.28

Source: *Calculated from Annual Reports of CCI Ltd. from 2005-06 to 2014-15 (Figures of each item of balance sheet have been taken into consideration for a three years gap)*

Table 6.3 shows the income statement of CCI Ltd. from 2005-06 to 2014-15. Total sale of the company was 19522 Lacs in 2005-06, which increased by 63.65 percent and reached to Rs. 31948 Lacs in 2008-09. Further, it registered a slow growth in the remaining period of the study. It was Rs. 33467 Lacs in 2011-12, an increase of 4.75 per cent from 2008-09. Finally, it reached to Rs. 40410 in 2014-15, a growth of 20.75 per cent from 2011-12.

As depicted in table 6.3, Cost of sales was Rs.15677 Lacs in 2005-06.It has been in increasing trend throughout the study period and reached at Rs.27171 Lacs in 2014-15 from Rs. 20569 Lacs in 2011-12, a growth of 32.10 percent.

Table 6.3 depicts that Gross Profit of CCI Ltd. increased by 298.36 per cent in 2008-09 from 2005-06. It registered a significant growth between 2004-05 (Rs. 3845) and 2008-09 (Rs. 15317). During the last years of the study, the gross profit showed a decreasing growth rate and stood at 2.64 per cent in 2014-15 indicating the impact of high cost of sales on the business operations of company.

The CCI Ltd. managed to reduce its high operating expenses from 2005-06 to 2008-09 by 22.51 (from Rs.13740 to Rs.10647 Lacs). However, from 2009-10 to 2011-12, the expenses increased by 30.74 per cent. In 2014-15, they stood at Rs.14662 Lacs with an increaseof5.33 per cent from 2011-12. The operating profit of the CCI Ltd. has been negative over the study period, except in 2008-09. The operating profit of the CCI Ltd. showed a positive growth of 144.13 per cent from 2005-06 to 2008-09. Further, in 2011-12, it registered a negative growth of 121.88 per cent from 2008-09 and finally it stood Rs. (1423) Lacs in 2014-15, an increase of 39.24 percent from 2011-12.

Earnings before interest and tax (EBIT) of CCI Ltd. was very high in2005-06 (Rs. 84358 Lacs).It declined over the study period and registered a negative growth rate of 68.39 per cent in 2011-12 from 2008-09. In the last years of the study 2014-15 it increased by 50.84 per cent as compared to 2011-12.

The position of profit before tax and profit after tax has been same as EBIT during the period of study. PAT was Rs. 83185 Lacs in 2005-06. It registered a negative growth of 93.68 per cent in 2008-09 as compared to 2005-06. However, it registered an impressive growth rate of 106.28 per cent in 2014-15 as compared to 2011-12.

From the above analysis, it has been observed that the CCI Ltd. has been able to accelerate the business operations and revenue generation but it has not been able to generate profit margin during the study period.

The analysis of Comparative Balance of CCI Ltd. has been done for the study period from 2005-06 to 2014-15. It is divided into four parts by taking a gap of three years. The common size income statement analysis of CCI Ltd. is given in table 6.4 as follows:

Table 6.4: Comparative Balance of CCI Ltd.

(Rs. in Lacs)

Liabilities and Shareholders' Equity	**2005-06**	**2008-09**	**%Inc/ dec**	**2011-12**	**%Inc/ dec**	**2014-15**	**%Inc/ dec**
Current Liabilities	23983	27000	12.06	6320	-76.59	6600	4.43
Provisions	11529	10404	-9.75	4302	-58.65	1608	-62.62
Loan	88287	44083	-50.07	62453	41.67	61156	-2.07
Total Liabilities	**123799**	**81487**	-34.17	**73075**	-10.32	**69364**	-5.07
Share Capital	44682	81141	81.06	81141	0	81141	0
Reserve & Surplus	0	0	0	0	0	0	0
Shareholder's Fund	44682	81141	81.06	81141	0	81141	0
Total Liabilities & Equity	**168481**	**162628**	-3.47	**154215**	-5.17	**150505**	-2.4
Assets	**2005-06**	**2008-09**	**%Inc/ dec**	**2011-12**	**%Inc/ dec**	**2014-15**	**%Inc/dec**
Accounts Receivable	1487	1181	-20.58	2186	85.1	761	-65.19
Cash	7003	25780	268.13	19041	-26.14	19649	3.19
Loans and advances	2544	3460	36.01	2467	-28.7	2719	10.21
Inventory	8863	11341	27.96	15966	40.78	13615	-14.73
Interest Accrued on Investment / Misc. Exp.	0	0	0	929	929	850	-8.5
Total Current Assets	**19897**	**41763**	109.9	**40589**	-2.81	**37594**	-7.38
Property, Plant & Equipment	14681	12804	-12.79	16122	25.91	22637	40.41
Investment	228	228	0	228	0	0	-100
Total Fixed Assets	14909	13032	-12.59	17231	32.22	22637	31.37
Other intangible assets(loss)	**133676**	**107833**	-19.33	**96167**	-10.82	**90274**	-6.13
Total Assets	**168481**	**162628**	-3.47	**154215**	-5.17	**150505**	-2.41

Source: *Calculated from Annual Reports of CCI Ltd. from 2005-06 to 2014-15 (Figures of each item of balance sheet have been taken into consideration for a three years gap)*

Table 6.4 articulates the comparative balance sheet of CCI Ltd. The current liability of CCI Ltd. was Rs.23983 Lacs in 2005-06, which decreased by 12.06 percent and

reached, at Rs.6320 Lacs in 2011-12. Finally, from 2012-13 to 2014-15, it was increased by 4.43 percent which clearly shows that the company has preferred to take loans in place of any other source of finance.

During the initial years of the study, the long term debt was brought down by 50.07 per cent from Rs. 88287 Lacs to Rs 44083 Lacs from 2005-06 to 2008-09. While in 201l-12, it increased to 41.67 per cent from 2008-09. Further, during the last years of the study i.e. from 2011-12 to 2014-15, it slightly decreased to 2.07 per cent.

The total liabilities of the CCI Ltd. showed a decreasing trend over the study period, as it was Rs.123799 Lacs in 2005-06 which declined to almost 40 per cent and reached Rs.69364 Lacs in 2014-15.

Share capital of the company was Rs. 44682 Lacs in 2005-06 which increased by 81.06.pecent and stood at Rs.81141 Lacs in 2008-09 and stayed the same till 2014-15. Reserve and Surplus of the company remained zero during the study period.

Total Liabilities and equity of CCI Ltd. slightly decreased over the study period, it reduced by 5.17 per cent in 2011-12 from 2008-09 and by 2.40 per cent in 2014-15 from 2011-12.

The current assets of the CCI Ltd. registered a significant growth as they were Rs.19897 Lacs in 2005-06which increased by 109.90 per cent and reached to Rs.41763 Lacs in 2008-09. In 2011-12, the current assets slightly decreased to Rs.40589Lacs, a negative growth rate of 2.81 per cent. However, in the last years of the study period, the total current assets decreased by 7.38 per cent in 2014-15 from 2011-12. The cash position of the company has been good from 2005-06 to 2008-09 as it increased by 268.13 per cent and registered a positive growth over the study period. The inventory of the company showed a positive growth rate of 40.87 per cent in 2011-12 from 2008-09. Further, from 2012 to 2015, it decreased byaround15 per cent. During the initial years of the study period, the company has not sold its products on credit basis as the amount of accounts receivables has decreased by 20.58 percent in 2008-09 from 2005-06. However, it increased to 85.10 percent in 2011-12 from 2008-09..In the last year,2014-15, it declined by 65.19 per cent as compared to 2011-12 indicating that the company sold its products on credit bases during the study period.

The fixed asset of the company reduces by 12.59 per cent in 2008-09 from 2005-06. Further, it registered a growth during the rest of the study period and

increased by 31.37 per cent in 2014-15 from 2011-12. Other intangible assets and total assets of the CCI Ltd. showed a decreasing trend during the study period. In 2005-06, the total asset was Rs. 168481 Lacs, which decreased by 2.41 percent and stood at Rs. 150505 Lacs in 2014-15.

6.1.3 Ratios Analysis of Cement Corporation of India Ltd

Ratio analysis is a widely used tool of financial analysis, used to compare the risk and return relationship of firms of different sizes. It is defined as the systematic use of ratio to interpret the financial statements so that the strengths and weaknesses of a firm as well as its historical performance and current financial condition can be determined. The term ratio refers to the numerical or quantitative relationship between two items or variables. This relationship can be expressed as percentage (Khan & Jain, 2011). Accounting ratio is a tool to measure the financial performance of a concern. It is used for the analysis and evaluation of liquidity, solvency, earning capacity and market performance of a company. The financial position of Cement Corporation of India Ltd is being evaluated with the help of liquidity, solvency, profitability and turnover ratios which are described as under:

6.1.3.1 Analysis of Liquidity Position of CCI Ltd.

The short term solvency position of CC Ltd. has been evaluated with the help of liquidity ratios. Current ratio, Liquid ratio and cash position ratio have been consider to check the short term solvency of the company from 2005-06 to 2014-15.

Table 6.5 Liquidity Ratios of CCI Ltd

(in times)

Year	CR	LR	CPR
2005-06	0.56	0.31	0.02
2006-07	0.78	0.51	0.38
2007-08	0.98	0.71	0.58
2008-09	1.12	0.81	0.69
2009-10	1.36	1.02	0.89
2010-11	1.19	0.79	0.61
2011-12	3.82	2.32	1.79
2012-13	4.71	2.74	2.15
2013-14	4.03	2.38	1.86
2014-15	4.58	2.92	2.39
Average	**2.31**	**1.45**	**1.13**

Source: *Calculated from Annual Reports of CCI Ltd. from 2005-06 to 2014-15*

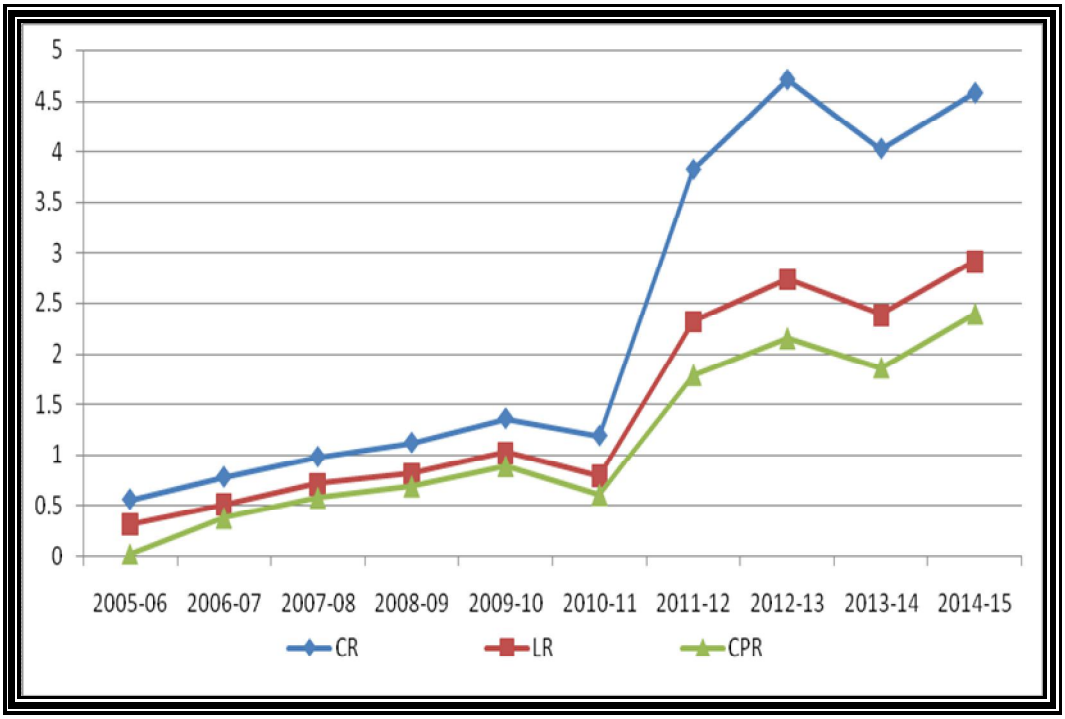
The above table 6.5 reveals the short term solvency position of Cement Corporation of India Ltd with the help of current ratio, liquid ratio and cash ratio from 2005-06 to 2014-15. Current ratio is a measure of margin of safety to the creditors. An increase in the current ratio represents improvement in the liquidity position of a firm, while a decrease in the current ratio indicates that there has been deterioration in the liquidity position of a firm. Standard current ratio is 2:1. In Table 6.5, Current ratio is ranging between 0.56 times to 4.03 times from 2005-06 to 2014-15. During the initial years of the study the current ratio was very low, it was only 0.56 times in 2005-06 (lowest during the study period). In 2006-07, it was 0.78 times which slightly increased in 2007-08 to become 0.98 times indicating that the liquidity position of CCI Ltd. was not satisfactory during the initial years of the study. Liquidity position has been under serious strain, as its liquidity position is highly vulnerable. The creditors stand at considerable risk, as the company is not in a position to meet its current obligations. However, in 2008-09 and 2009-10, it showed satisfactory liquidity position i.e. 1.12 times and 1.36 times, respectively. From 2011-12 to 2013-14, the CR exceeds the standard ratio of 2:1 and reached to 4.71 times in 2012-13 (highest CR during the study period). Finally, in 2014-15, it slightly decreased to 4.58 times as compared to 2012-13 indicating blockage of fund during these years. Average CR ratio was 2.31

times during the ten years of study period indicating overall satisfactory liquidity position during study period.

A quick ratio of 1:1 is considered as satisfactory because of its immediate ability to meet the short-term obligations. The above table 6.5 shows that the quick ratio of the CCI Ltd. has fluctuated from 0.31in the year 2004-05 to 0.81 in the year 2008-09. It indicates that the company was not able to pay off its current obligations during these years. In 2009-10, the liquid ratio reached 1.08 times which is up to the standard ratio. It further increased to 2.32 times and 2.74 times in 2010-11 and 2011-12, respectively. In 2013-14, it slightly decreased and stood at 2.38 times indicating blockage of fund in liquid assets. The mean value of quick ratio was satisfactory (1.45 times) over the period of ten years. Average CR ratio was 2.31 times during the ten years of study period indicating overall satisfactory liquidity position during study period.

Table 6.5 exhibits the cash position ratio of CCI Ltd. It has been in a fluctuating trend during the period under study. It varied between 0.02timesto 0.69 times from 2005-06 to 2008-09. The CPR of CCI Ltd. was highest in the year 2012-13 (2.15 times) and was lowest (0.02 per cent) in the year 2005-06. Further, it increased and become 0.38, 0.58 and 0.89 times in the year 2006-07, 2007-08 and 2009-10 respectively. In 2010-11, there was a decrease in cash position ratio to become 0.61per cent. But after that it increased to become 1.79 times and 2.15 times in the year 2011-12 and 2012-13, respectively. Finally In 2014-15it stood at 2.39 times. The mean value of CPR was satisfactory (1.13 times) over the period of ten years.

Figure 6.1 Liquidity Ratios of CCI Ltd.



Source: *Annual Reports of CCI Ltd. from 2005-06 to 2014-15*

The above Figure 6.1 shows the liquidity ratios of CCI Ltd. from 2005-06 to 2014-15. There is an inclined trend of current, liquid and cash ratios from 2005-06 to 2010-11. Further, a rapid growth was recorded in all the liquidity ratios of CCI Ltd. till during the study period. The company could not maintained adequate cash to meet its expenses in the first half of the study period, while the second half showed blockage of fund.

6.1.3.2 Analysis of Solvency Position of CCI. Ltd

Solvency position reveals the ability of a company to pay its long term debts. The solvency position of CCI Ltd. has been analyzed with the help of debt equity ratio, interest coverage ratio and proprietary ratio from 2005-06 to 2014-15. Debt equity is the comparison of shareholders fund and long term debt of a concern. It reveals the contribution of internal as well as external capital in total capital employed. The debt equity ratio of Cement Corporation of India Ltd is being evaluated from 2005-06 to 2014-15.

Table 6.6: Solvency Ratios of CCI Ltd.

(in times)

Year	DER	ICR	PR
2005-06	1.98	73.23	0.27
2006-07	0.52	6.37	0.50
2007-08	0.55	2.19	0.50
2008-09	0.54	2.42	0.50
2009-10	0.58	2.41	0.49
2010-11	0.46	1.74	0.54
2011-12	0.81	3.13	0.50
2012-13	0.82	2.82	0.52
2013-14	0.77	6.89	0.53
2014-15	0.75	14.49	0.54
Average	**0.77**	**11.56**	**0.48**

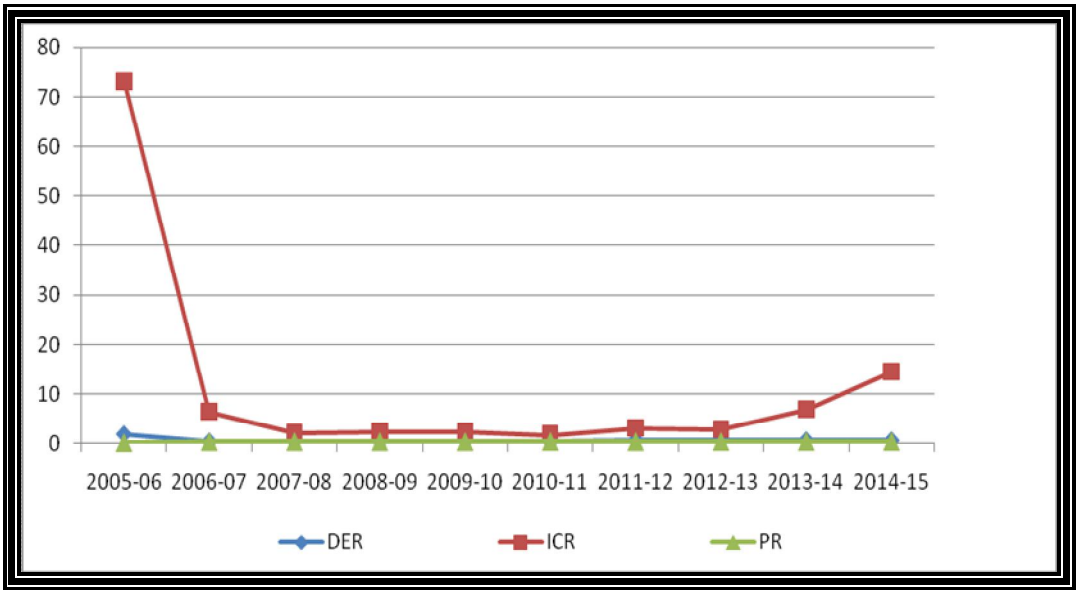
Source: *Calculated from Annual Reports of CCI Ltd. from 2005-06 to 2014-15*

The above table 6.6 shows the debt equity ratio of CCI Ltd. from 2005-06 to 2014-15. In 2005-06, the DER of CCI Ltd. was 1.98 times, it was the highest ratio during the study period. DER shows a declining trend in next three consecutive years and stood at 0.46 times in 2010-11. In 2011-12 and 2012-13 it was 0.81 times and 0.82 times, respectively. Again with slight decrease, it finally stood at 0.75 times in 2014-15. The DER was found below the standard margin of 1:1 indicating that CCI Ltd. was not trading on equity and not making use of financial leverage. The mean value of CPR was satisfactory (0.77 times) over the period of ten years.

In 2005-06, the interest coverage ratio of the CCI Ltd. was exceptionally high (73.23 times). Further, the interest coverage ratio shows a decreasing trend till 2010-11 and stood at only 1.74 times. It indicates that interest coverage ability of CCI Ltd. has not been good during most of the years during study. However, interest coverage ratio of 14.49 times in 2014-15 indicates good interest coverage ability of CCI Ltd. in this year. Average ICR ratio was 11.56 times during the ten years of study period indicating overall satisfactory solvency position during study period.

Table 6.6 indicates that Proprietary ratio was low during the initial year of the study. It was 0.27times in 2005-06 which increased during the subsequent years of the study and reached to0.54 times in 2014-15. An average proprietary ratio of 0.48 times indicates that equity has been half of the total assets during the period of the study.

Figure 6.2: Solvency Ratios of CCI Ltd.



Source: *Annual Reports of CCI Ltd. from 2005-06 to 2014-15*

Figure 6.2 exhibits the solvency ratios of CCI Ltd. from 2005-06 to 2014-15. It shows the constant line of debt equity ratio and proprietary ratio during the study period. Whereas, interest coverage ratio has registered a big fall in 2006-07 and further, it has a constant trend till 2012-13.

6.1.3.3 Analysis of Profitability Ratios of CCI Ltd.

Profitability position of a company reveals its earning capacity during a specific period of time. They are used to check the earning capacity of a business concern. One can measure the earning capacity of a company in two terms i.e. in terms of sales and in terms of investment. The Profitability position of CCI Ltd. has been analyzed with the help Gross profit ratio, net profit ratio, operating ratio, return on capital employed, return on net worth and return on assets ratios from 2005-06 to 2014-15.

Table 6.7: Profitability Ratios of CCI Ltd.

(in percentage)

Year	GPR	NPR	OR	ROCE	RONW	ROA
2005-06	19.69	426.08	150.68	63.44	186.17	50.07
2006-07	48.16	58.61	82.55	16.18	20.67	12.40
2007-08	47.50	13.99	81.46	6.04	5.04	4.63
2008-09	47.94	16.45	85.38	7.21	6.48	5.55
2009-10	45.71	15.98	82.87	7.05	6.50	5.50
2010-11	36.35	8.98	98.35	5.41	3.34	4.22
2011-12	38.54	5.81	103.05	1.99	2.52	1.85

2012-13	34.60	2.82	109.17	0.85	1.00	0.81
2013-14	26.69	4.99	117.75	1.34	2.00	1.26
2014-15	32.76	9.92	104.5	3.03	4.94	2.86
Average	**37.79**	**56.36**	**101.57**	**11.25**	**23.86**	**8.91**

Source: *Calculated from Annual Reports of CCI Ltd. from 2005-06 to 2014-15*

The above table 6.7 elucidates the profitability ratios of Cement Corporation of India Ltd from 2005-06 to 2014-15. The profitability of the company is being analyzed in two terms i.e. sales and investment. In terms of sales the GPR, OR and NPR have been calculated, while in terms of investment the ROCE, ROA and RONW have been considered. The gross profit of the company was satisfactory during most of the years of study period. It was 19.69 per cent in 2005-06. Further, it was highly accelerate during the subsequent years till 2009-10. However, in 2010-11, it was declined by 10 per cent and stood at 36.35 per cent and remained stagnant during next three years. Finally, in 2014-15, the GPR of the company stood at 26.69 per cent. Average GPR ratio was 37.79 times during the ten years of study period indicating overall satisfactory Profitability position during study period.

The net profit was exceptionally high (426.08 per cent) in first year of the study i.e. 2005-06. In 2006-07, NPR was 58.61 percent. Further, net profit ratio declined during the subsequent years and stood at only 4.99 per cent in 2014-15.whereas Average net profit ratio was 56.36 times during the ten years of study period indicating overall satisfactory NPR during study period.

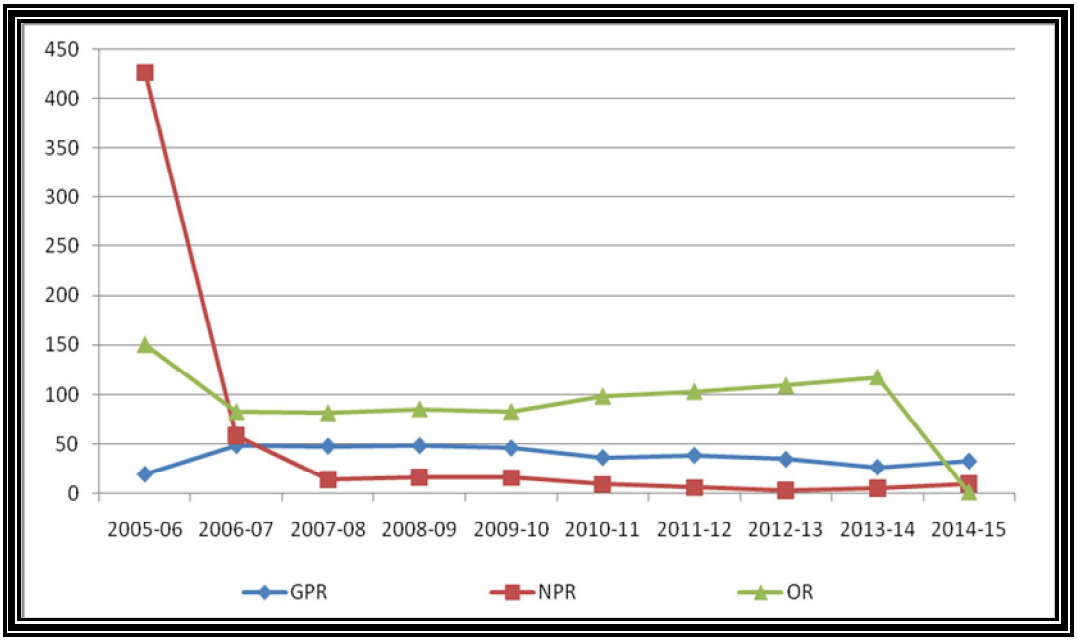
Operating cost of the company was very high in 2005-06 (150.68 per cent) indicating high operating cost and negative operating profitability for this year. From 2006-07 to 2009-10, OR of CCI Ltd. varies between 81.46 percent and 85.38 percent indicating high operating cost but positive operating profit for the company during these years. Further, it again increased for the next three consecutive years and stood at 104.5per cent in 2014-15 indicating increase in operating expenses during last years of study and negative operating profit for the company. Average OR was 101.57 times during the ten years of study period indicating high operating cost and negative and unsatisfactory operating profit during study period.

As can be seen from table 6.7, the company under study had very low return on capital employed during the study period. However, ROCE of the company was exceptionally high (63.44 per cent) in 2005-06.ROCE of the company fell drastically during study period and stood at 3.03 per cent in 2014-15 indicating low return on the

capital employed in the company. Average ROCE was 11.25 times during the ten years of study period indicating overall unsatisfactory ROCE during study period.

The return on net worth and Return on assets followed the same pattern of ROCE. RONW and ROA was stoodat186.17 per cent and 50.07, respectively, in 2005-06. RONW and ROA fell to 20.67 and 12.40, respectively in 2006-07.Furthermore, RONW and ROA fell drastically during the subsequent years to become 4.96 and 2.86, respectively, in 2014-15, indicating poor performance of the company during study period. Average RONW and ROA were 23.86 times and 8.91times during the ten years of study period indicating overall satisfactory profitability during study period.

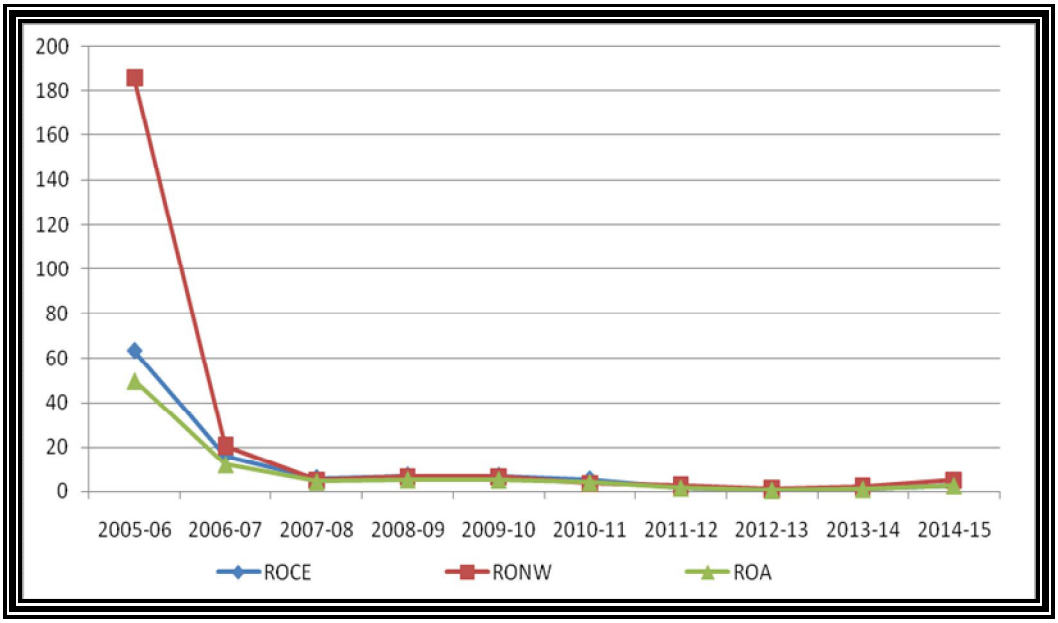
Figure 6.3: Profitability Ratios of CCI Ltd.



Source: *Annual Reports of CCI Ltd. from 2005-06 to 2014-15*

The above Figure 6.3 presents the profitability position in terms of sales of CCI Ltd. from 2005-06 to 2014-15. Gross profit ratio was quite satisfactory during the study period. Net profit ratio was very high in 2005-06 which declined in 2007-08 and remains constant during subsequent years. Operating ratio has been high during study period. It was exceptionally high in 2005-06 indicating higher operating expenses during the study period.

Figure 6.4: Profitability Ratios of CCI Ltd.



Source: *Annual Reports of CCI Ltd. from 2005-06 to 2014-15*

Figure 6.4 presents the profitability ratios of CCI Ltd. in terms of investment from 2005-06 to 2014-15. The position of the company has been very poor in terms of return on investment during the period of the study. Further, return on capital employed, return on net worth and return on assets has been lower during study period indicating low return for the shareholders of the company. However, ROCE, RONW and ROA were exceptionally high in 2005-06 indicating high other income for this year.

6.1.3.4 Analysis of Turnover Ratios of CCI Ltd

Turnover or activity ratios elaborate the cash rotation ability of a concern during a financial cycle. In order to check the turnover position of CCI Ltd., stock turnover ratio, debtor turnover ratio, working capital turnover ratio and total asset turnover ratio have been considered.

Table 6.8: Turnover Ratios of CCI Ltd.

(in times)

Year	STOR	DTOR	WCTOR	TATR
2005-06	1.78	13.31	-0.61	0.12
2006-07	1.55	16.5	-0.16	0.18
2007-08	1.50	28.88	0.06	0.18
2008-09	1.54	27.05	0.27	0.20
2009-10	1.51	37.26	0.29	0.20
2010-11	1.52	17.0	0.60	0.20
2011-12	1.42	15.31	0.90	0.22
2012-13	1.17	17.24	1.01	0.18
2013-14	1.50	30.64	0.87	0.21
2014-15	1.80	53.10	0.36	0.27
Average	**1.529**	**25.629**	**0.359**	**0.196**

Source: *Calculated from Annual Reports of CCI Ltd. from 2005-06 to 2014-15*

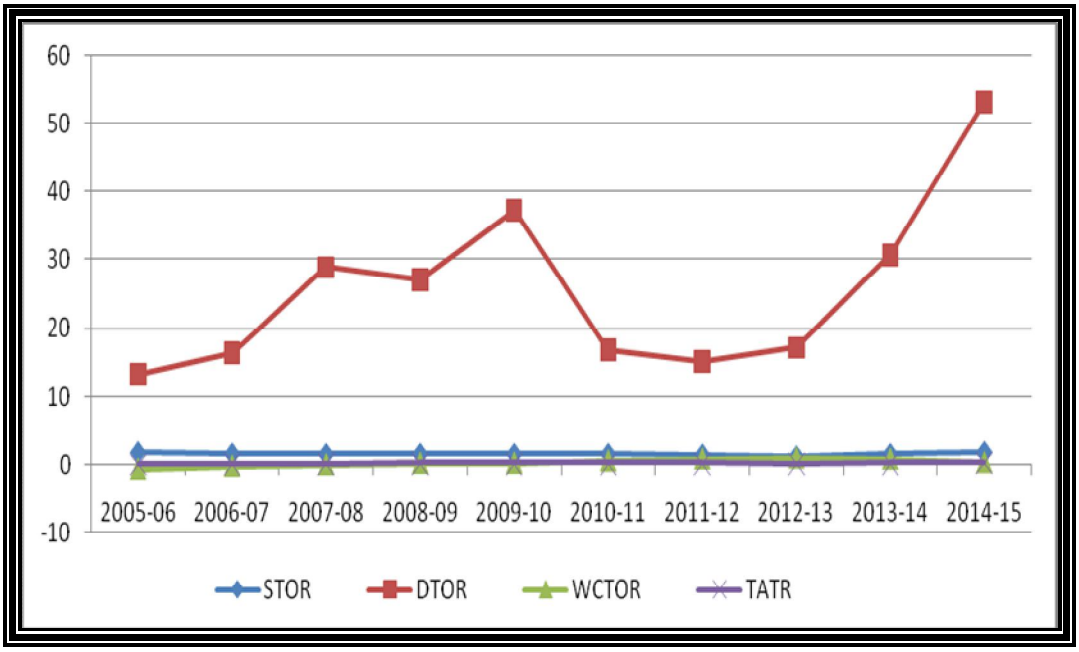
The above table 6.8 exhibits the turnover ratios of CCI Ltd. from 2005-06 to 2014-15. Stock turnover ratio indicates how much Time Company taken to converts its stock into cash. The stock turnover ratio of CCI Ltd. has been unsatisfactory during the whole study period. In 2005-06, it was 1.77 times which slightly decreased to become 1.55 times in 2006-07. In 2012-13, there was a decrease in stock turnover ratio to become 1.17 times. However, in 2014-15 it again increased and become 1.80 times. Table 6.8 clearly revealed inefficiency of inventory management during the study period as management has not been able to efficiently convert the inventory into sale during the study period. An average STOR of 1.52 times indicates that stock turnover was unsatisfactory during the period of the study.

The above table 6.8 shows the debtors turnover ratio of CCI Ltd. from 2005-06 to 2014-15. It has been in mixed trend during study period. It was 13.31 times in 2005-06 and increased to become 37.26 in 2009-10. Further, it decreased and stood at 15.31 times in 2011-12. It again increased and stood at 53.10 times in 2014-15. Debtor's turnover indicates that CCI Ltd. had satisfactory turnover during the study period. Average DTOR was 25.63 times during the ten years of study period indicating overall satisfactory position during study period.

Table 6.8 depicts working capital turnover ratio of the CCI Ltd. It has been negative during initial years of the study (-0.61 to 0.16 from 2005-06 to 2006-07, respectively) indicating condition of financial distress during these years. Further working capital turnover ratio of the CCI Ltd. showed increasing trend from 2008-09 to 2012-13 and stood at1.01 times in 2012-13.Finally, in the last year of the study, it slightly decreased and reached to 0.36 in 2014-15. WCTOR of CCI Ltd. was unsatisfactory during study period indicating inefficient working capital management during these years. An average WTOR of 0.35 times indicates that working efficiency was unsatisfactory during the period of the study.

Table 6.8 shows total assets turnover ratio of the CCI Ltd. Has been very low during the study period. It was only 0.12 times in 2005-06 which increased and reached to 0.27 times in 2014-15. Average TATR of 0.20 times indicates that management has not been able to use its assets to generate the sale during the period of study. An average TATR of 0.19 times indicates that return on assets was unsatisfactory during the period of the study.

Figure 6.5: Turnover Ratios of CCI Ltd



Source: *Annual Reports of CCI Ltd from 2005-06 to 2014-15*

The above Figure 6.5 shows turnover ratios of CCI Ltd. from 2005-06 to 2014-15. Stock turnover ratio, working capital turnover ratio and total asset turnover ratio had constant trend during the study period. Debtor's turnover ratio had a fluctuation trend

throughout the study period. From above discussion it is concluded that the turnover position of the company was not satisfactory during the period of study.

6.2 INDIAN CEMENT INDUSTRY AND CEMENT CORPORATION OF INDIA LTD: A COMPARATIVE ANALYSIS

A comparative study of short term solvency position between Indian cement industry and Cement Corporation of India Ltd is being done as follows:

Table 6.9: Current Ratio of Indian Cement Industry and CCI Ltd.

(in times)

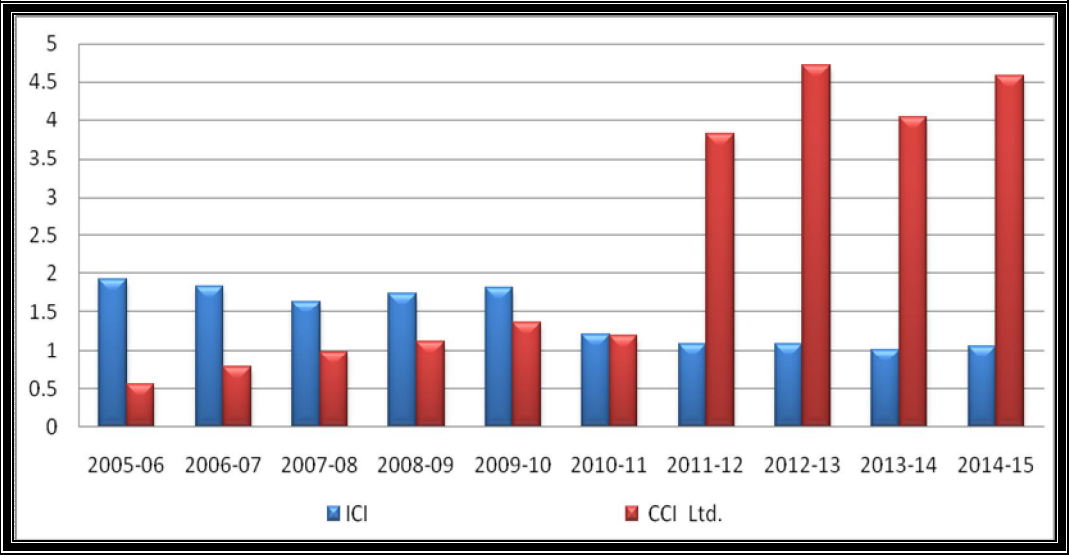
Year	CR	
	ICI	**CCI Ltd.**
2005-06	1.93	0.56
2006-07	1.84	0.78
2007-08	1.63	0.98
2008-09	1.74	1.12
2009-10	1.82	1.36
2010-11	1.21	1.19
2011-12	1.09	3.82
2012-13	1.09	4.71
2013-14	1.01	4.03
2014-15	1.06	4.58
Average	**1.44**	**2.31**

Source: *ACE Equity database and Annual Reports of CCI Ltd. from 2005-06 to 2014-15*

As can be seen from table 6.9, CR of CCI Ltd. has been in increasing trend over the years under the study whereas CR of industry average has been in decreasing trend. In 2005-06 to 2007-08, CR of CCI Ltd. was very low as compared to industry average. In 2005-06, it was 0.56 times for CCI Ltd. against 1.93 times of industry average. In 2007-08, it was 0.98 times against1.63 times of industry average, respectively. However, in 2010-11, CR of CCI Ltd. increased and reached to 1.19 times which was close to the industry average ratio of 1.21 times in the same year. Finally CR of CCI Ltd. increased to3.82 and 4.58 times in 2011-12 and 2014-15, respectively against the industry average ratio of 1.09 times and 1.06 times during the same years. Average

CR of CCI Ltd. indicates better short term solvency than industry. However, CR of CCI Ltd. has been in fluctuating trend which revealed inconsistent liquidity position of the company during the study period compared to industry average liquidity. Whereas average CR of CCI Ltd. (2.31 times) was better than industry average CR (1.44 times) during the period of the study.

Figure 6.6: Current Ratio of Indian Cement Industry and CCI Ltd.



Source: *ACE Equity database and Annual Reports of CCI Ltd.from 2005-06 to 2014-15*

The above Figure 6.6 presents a comparative trend of current ratio of Indian Cement Industry and CCI Ltd. from 2005-06 to 2014-15. Although average Current ratio of CCI Ltd. was better than the Indian Cement Industry but CR of CCI Ltd. has been inconsistent compared to industry average during the study period. Also, CCI Ltd. has not been able to maintain its CR near to the Standard of 2:1.

Table 6.10: Liquid Ratio of Indian Cement Industry and CCI Ltd.

(in times)

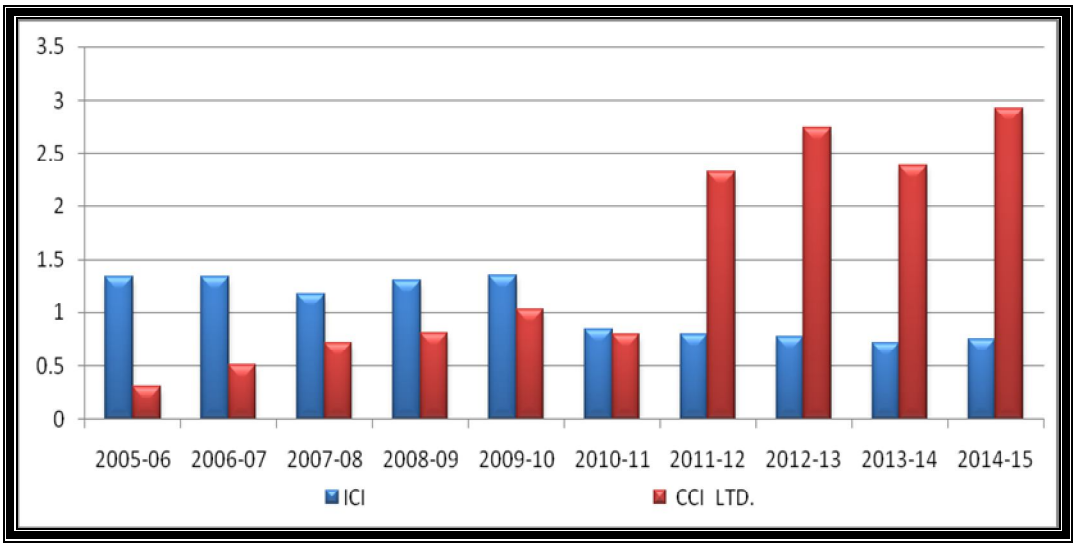
Year	**LR**	
	ICI	**CCI LTD.**
2005-06	1.34	0.31
2006-07	1.34	0.51
2007-08	1.18	0.71
2008-09	1.3	0.81
2009-10	1.35	1.02
2010-11	0.84	0.79

2011-12	0.79	2.32
2012-13	0.77	2.74
2013-14	0.71	2.38
2014-15	0.75	2.92
Average	**1.03**	**1.45**

Source: *ACE Equity database and Annual Reports of CCI Ltd. from 2005-06 to 2014-15*

Table 6.10 presents comparative figures of liquid ratio of Indian cement industry and Cement Corporation of India Ltd. Similar to CR, the LR of CCI Ltd. shows an increasing trend over the period of study whereas LR of industry average shows a declining trend over the study period. During the initial years of the study, LR of CCI Ltd. has been lower as compared to industry average LR. However, in 2010-11, the LR of CCI Ltd. (0.79 times) was close to the industry average ratio (0.84 times). Further, during the subsequent years i.e. from 2011-12 to 2014-15, the LR of CCI Ltd. was higher than the industry average LR. Average LR (1.45 times) of CCI Ltd. was higher than the Industry average LR (1.03 times) indicating better liquidity position of CCI Ltd. during the study period.

Figure 6.7: Liquid Ratio of Indian Cement Industry and CCI Ltd.



Source: *ACE Equity database and Annual Reports of CCI Ltd. from 2005-06 to 2014-15*

The above Figure 6.7 shows comparison of liquid ratio between Indian Cement Industry and CCI Ltd. during 2005-06 and 2014-15. Liquidity ratio of CCI Ltd. was lower as compared to industry average indicating unsatisfactory solvency position and

condition of financial distress during the initial years of the study. However, liquid ratio of CCI Ltd. was higher as compared to the industry indicating unsatisfactory short term solvency and blockage of fund during subsequent years of the study.

Table 6.11: Return on Assets of Indian Cement Industry and CCI Ltd.

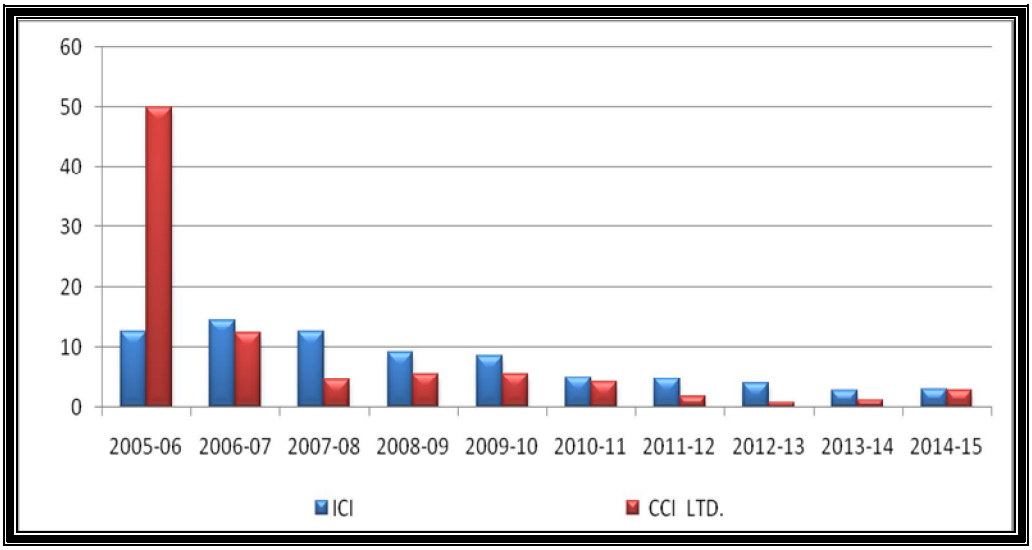
(in per cent)

Year	**ROA**	
	ICI	**CCI Ltd.**
2005-06	12.5	50.07
2006-07	14.51	12.4
2007-08	12.51	4.63
2008-09	9.11	5.55
2009-10	8.6	5.5
2010-11	4.89	4.22
2011-12	4.79	1.85
2012-13	4.04	0.81
2013-14	2.69	1.26
2014-15	2.92	2.86
Average	**7.66**	**8.92**

Source: *ACE Equity database and Annual Reports of* CCI Ltd*. from 2005-06 to 2014-15*

Table 6.11 shows a decreasing trend of ROA for both CCI Ltd. and industry average over the period of study. ROA of CCI Ltd. has been greater than industry average for the years 2005-06 while ROA of CCI Ltd. has been lower than industry average for remaining the years under study. ROA of CCI Ltd. decreased from 50.07 percent in 2005-06 to 0.81 percent in 2012-13, whereas, ROA of industry average decreased from 12.5 percent in 2005-06 to 4.04 percent in 2012-13. Further in 2013-14 the ROA of CCI Ltd. was only 1.26 per cent whereas ROA of industry average was stood at 2.69 per cent. Industry Average ROA of CCI Ltd. (8.92 per cent) was better than industry average ROA (7.66 per cent) during the period of the study.

Figure 6.8 Returns on Assets of Indian Cement Industry and CCI Ltd.



Source: *ACE Equity database and Annual Reports of CCI Ltd. from 2005-06 to 2014-15*

Figure 6.8 shows the return on assets of Indian Cement Industry and CCI Ltd. from 2005-06 to 2014-15. The ROA of CCI Ltd. was 50.07 per cent in 2005-06 which shows a declining trend in the following years of the study. The return on assets of the industry has been in decreasing trend during the period of study. Return on Assets of CCI Ltd. and cement industry was approximately same except first year of the study.

Table 6.12: Return on Net Worth of Indian Cement Industry and CCI Ltd.

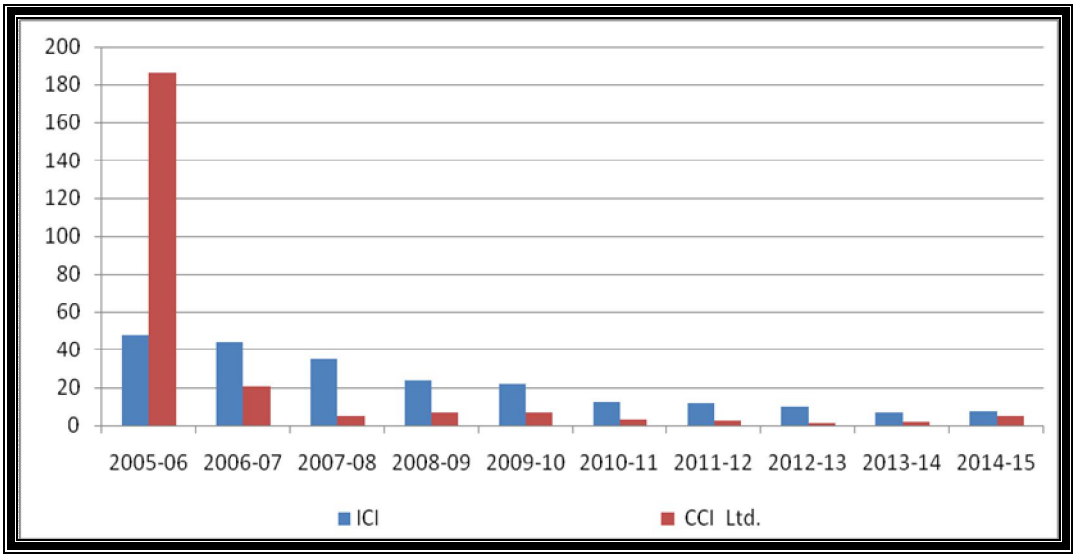
(in per cent)

Year	RONW	
	ICI	**CCI Ltd.**
2005-06	47.73	186.17
2006-07	43.64	20.67
2007-08	34.46	5.04
2008-09	24.05	6.48
2009-10	21.93	6.5
2010-11	12.16	3.34
2011-12	11.73	2.52
2012-13	9.91	1.00
2013-14	6.67	2.00
2014-15	7.05	4.94
Average	**21.93**	**23.87**

Source: *ACE Equity database and Annual Reports of CCI Ltd. from 2005-06 to 2014-15*

The above table 6.12 shows that RONW of CCI Ltd. has been lower than the industry average ratio over the entire study period except for the year 2005-06 in which RONW of CCI Ltd. was 186.17 per against the industry average ratio of 47.73 per cent in the same year. Further, RONW of both, CCI Ltd. and industry average RONW, have been in decreasing trend during the study period. Average RONW of CCI Ltd. (23.87 per cent) was higher than the industry (21.93 per cent) indicating better profitability position of CCI Ltd. during study period.

Figure 6.9: Return on Net Worth of Indian Cement Industry and CCI Ltd.



Source: *ACE Equity database and Annual Reports of CCI Ltd. from 2005-06 to 2014-15*

Figure 6.9 shows the return on net worth of Indian Cement Industry and CCI Ltd. from 2005-06 to 2014-15. The RONW of CCI Ltd. was 186.17 per cent in 2005-06 which shows a declining trend in the following years of the study. The RONW of the industry has been in decreasing trend during the period of study. RONW of CCI Ltd. and cement industry was approximately same except first year of the study.

Table 6.13: Return on Capital Employed of Indian Cement Industry and CCI Ltd.

(in per cent)

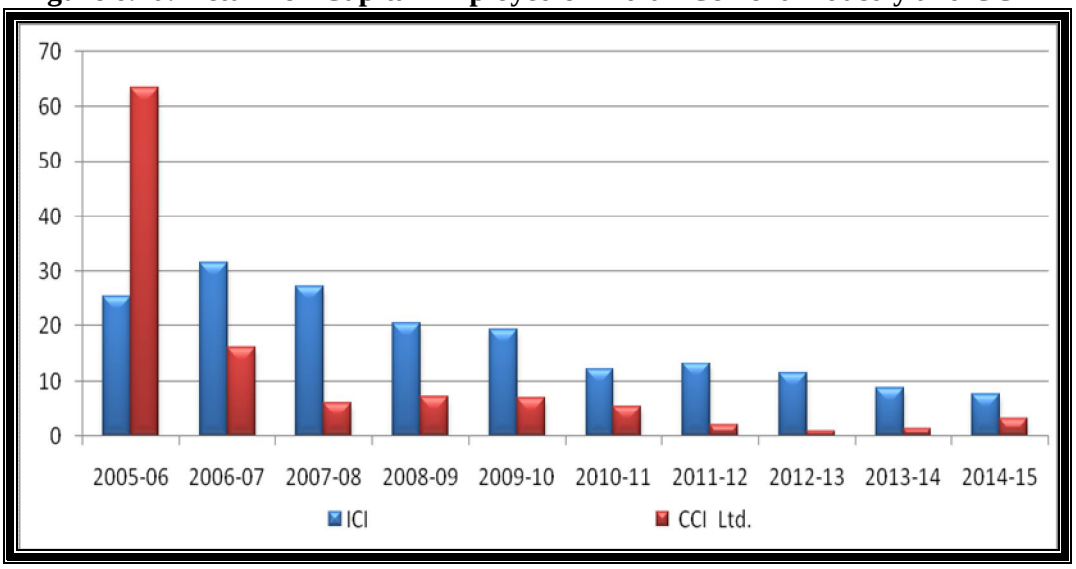
	ROCE	
Year	**ICI**	**CCI Ltd.**
2005-06	25.49	63.44
2006-07	31.51	16.18
2007-08	27.39	6.04
2008-09	20.45	7.21

2009-10	19.35	7.05
2010-11	12.14	5.41
2011-12	13.23	1.99
2012-13	11.57	0.85
2013-14	8.69	1.34
2014-15	7.69	3.03
Average	**17.75**	**11.25**

Source: *ACE Equity database and Annual Reports of CCI Ltd. from 2005-06 to 2014-15*

Table 6.13 shows the comparative analysis of return on capital employed of CCI Ltd. with its industry average has been presented in table 6.15. ROCE of CCI Ltd. has been greater than industry average in 2005-06. However, for rest of the years under study, industry average ROCE has been greater than ROCE of CCI Ltd. Average ROCE of CCI Ltd. (11.25 percent) was lower than the industry average ROCE during the period of the study.

Figure 6.10: Return on Capital Employed of Indian Cement Industry and CCI



Source: *ACE Equity database and Annual Reports of CCI Ltd. from 2005-06 to 2014-15*

The above Figure 6.10 shows return on capital employed of Cement Industry and CCI Ltd. from 2005-06 to 2014-15. ROCE of CCI Ltd. was more than 60 per cent in 2005-06 which declined to 10 per cent in 2006-07. Further it follows a constant trend from 2006-07 to 2014-15. The return on capital employed of CCI Ltd. was lower than average ROCE of cement industry during the study period.

Table 6.14: Debt Equity Ratio of Indian Cement Industry and CCI Ltd.

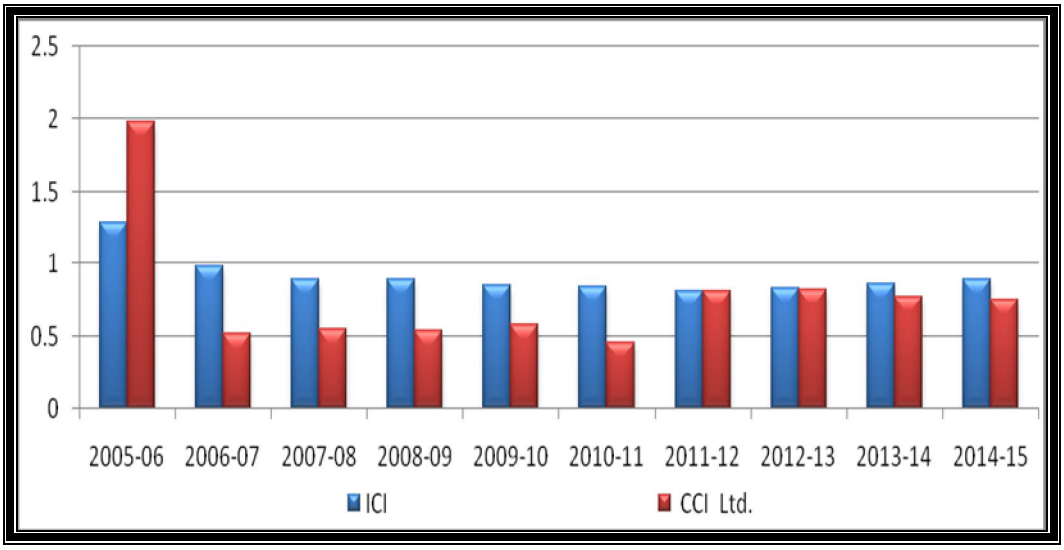
(in times)

Year	DER	
	ICI	**CCI Ltd.**
2005-06	1.28	1.98
2006-07	0.98	0.52
2007-08	0.89	0.55
2008-09	0.89	0.54
2009-10	0.85	0.58
2010-11	0.84	0.46
2011-12	0.81	0.81
2012-13	0.83	0.82
2013-14	0.86	0.77
2014-15	0.89	0.75
Average	**0.91**	**0.78**

Source: *ACE Equity database and Annual Reports of* CCI Ltd. *from 2005-06 to 2014-15*

Table 6.14 depicts that DER of CCI Ltd. has been in a fluctuating trend over the study period while industry average DER shows constant trend during study period. In 2005-06, DER of CCI Ltd. (1.98 times) was higher than the industry average DER (1.28 times). Further, from 2006-07 to 2010-11, both the ratios showed a declining trend, however, industry average ratio remained higher than the DER of CCI Ltd. during these years. Finally, from 20011-12 to 2013-14, DER of CCI Ltd. and its Industry average ratio were close. Average DER of industry average shows better solvency position than CCI Ltd. during study period.

Figure 6.11: Debt Equity Ratio of Indian Cement Industry and CCI Ltd.



Source: *ACE Equity database and Annual Reports of CCI Ltd. from 2005-06 to 2014-15*

Figure 6.11 exhibits debt equity ratio of Indian cement industry and CCI Ltd. from 2005-06 to 2014-15. DER of CCI Ltd. as well as industry average DER have been in decreasing trend during the study period, however, DER of CCI Ltd. indicates poor solvency position as compared to its industry average during the study period.

Table 6.15: Interest Coverage Ratio of Indian Cement Industry and CCI Ltd.

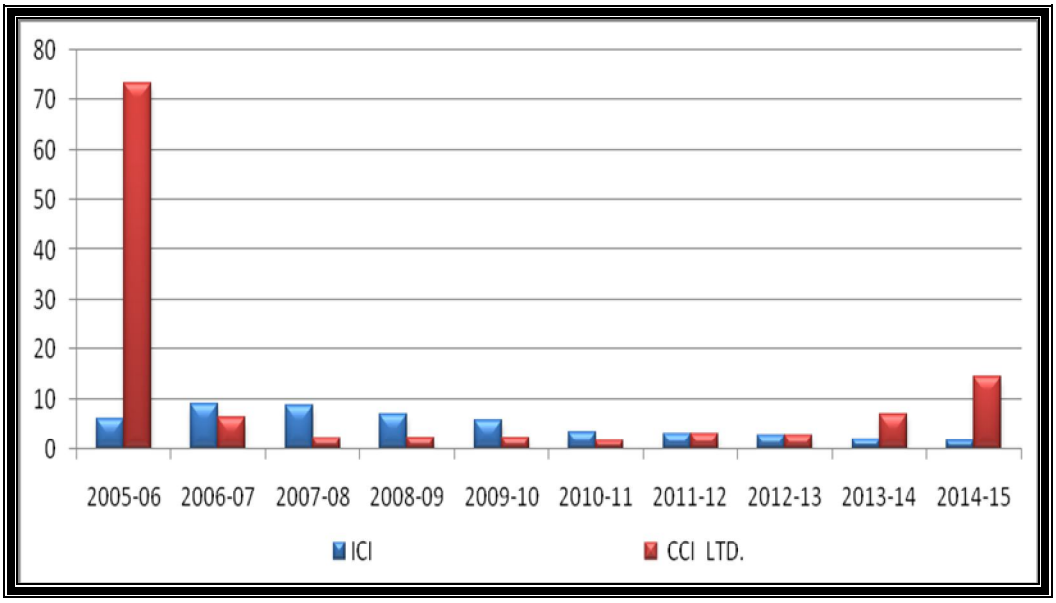
(in times)

Year	ICR	
	ICI	**CCI LTD.**
2005-06	6.18	73.23
2006-07	9.00	6.37
2007-08	8.64	2.19
2008-09	7.01	2.42
2009-10	5.9	2.41
2010-11	3.57	1.74
2011-12	3.19	3.13
2012-13	2.82	2.82
2013-14	1.97	6.89
2014-15	1.87	14.49
Average	**5.02**	**11.56**

Source: *ACE Equity database and Annual Reports of CCI Ltd. from 2005-06 to 2014-15*

The above table 6.15 shows that the ICR of CCI Ltd. has been greater than industry average for the years 2005-06 and 2013-14. For rest of the years under study, industry average ICR was greater than that of CCI Ltd. ICR of CCI Ltd. decreased from 73.23times in 2005-06 to 2.42times in 2008-09, whereas, ICR of industry average increased from 6.18 times in 2005-06 to 7.01 times in 2008-09. Further in 2011-12and 2012-13, the ICR of CCI Ltd. increased and stood at3.13 times and 2.82 times per cent respectively, which is close to the industry average of 3.19 per cent and 2.82 per cent, for the same years. Finally, in 2014-15, ICR of CCI Ltd. 14.49times was much higher than the industry average of 1.87 times. Average ICR of CCI Ltd. (11.56 times) indicates better interest coverage and solvency position than the industry (5.2 times) during the study period.

Figure 6.12: Interest Coverage Ratio of Indian Cement Industry and CCI Ltd.



Source: *ACE Equity database and Annual Reports of CCI Ltd. from 2005-06 to 2014-15*

Figure 6.12 shows the interest coverage ratio of Indian Cement Industry and CCI Ltd. from 2005-06 to 2014-15. The interest coverage ratio of CCI Ltd. and industry average ICR have been in a decreasing trend during the study period. Average ICR of CCI Ltd. (11.56 times) indicates better solvency position than the industry average of 5.02 times.

Table 6.16: Total Asset Turnover Ratio of Indian Cement Industry and CCI Ltd.

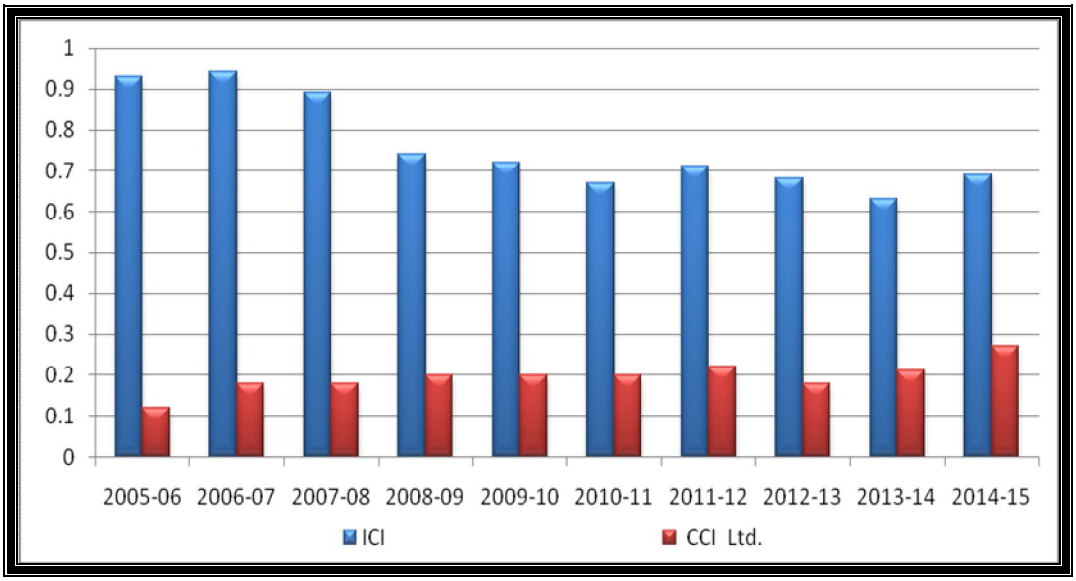
(in times)

Year	TATR	
	ICI	**CCI Ltd.**
2005-06	0.93	0.12
2006-07	0.94	0.18
2007-08	0.89	0.18
2008-09	0.74	0.20
2009-10	0.72	0.20
2010-11	0.67	0.20
2011-12	0.71	0.22
2012-13	0.68	0.18
2013-14	0.63	0.21
2014-15	0.69	0.27
Average	**0.76**	**0.20**

Source: *ACE Equity database and Annual Reports of CCI Ltd. from 2005-06 to 2014-1-5*

Table 6.16 presents the comparative trend of total assets turnover ratio of CCI Ltd. and industry average total assets turnover ratio. Industry average TATR has been greater than that of CCI Ltd. during the period of study. The total assets turnover ratio of CCI Ltd. was very low during the study period as it was only 0.12 times in 2005-06 which increased in subsequent years and reached to 0.21times in 2013-14. Industry average total assets turnover ratio ranged between 0.93 times in 2005-06 to 0.69 times in 2014-15. It Indicates that CCI Ltd. has been lesser efficient in generating sales with the help of its assets than the industry average efficiency.

Figure 6.13: Total Asset Turnover Ratio of Indian Cement Industry and CCI Ltd.



Source: *ACE Equity database and Annual Reports of CCI Ltd. From 2005-06 to 2014-15*

The above Figure 6.13 shows total asset turnover ratio of Indian cement industry and Cement Corporation of India Ltd from 2005-06 to 2014-15. The TATR of cement industry and CCI Ltd, indicates that CCI Ltd. has been inefficient as compared to industry average.

Table 6.17: Working capital turnover ratio of Indian Cement Industry and CCI Ltd.

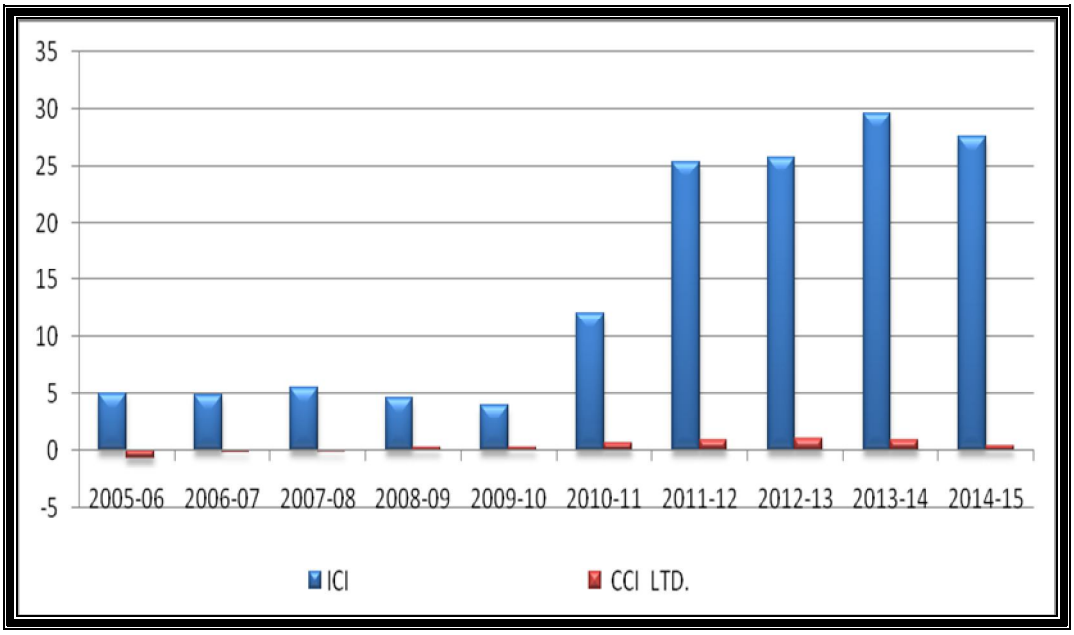
(in times)

Year	WCTR	
	ICI	**CCI LTD.**
2005-06	4.95	-0.61
2006-07	4.85	-0.16
2007-08	5.48	0.06
2008-09	4.58	0.27
2009-10	3.92	0.29
2010-11	12.11	0.6
2011-12	25.37	0.9
2012-13	25.71	1.01
2013-14	29.61	0.87
2014-15	27.52	0.36
Average	**14.41**	**0.36**

Source: *ACE Equity database and Annual Reports of CCI Ltd. from 2005-06 to 2014-15*

Table 6.17 present the comparative analysis of total working capital turnover ratio of CCI Ltd. and industry average ratio from 2005-06 to 2013-14. Industry average WCTR has been greater than the CCI Ltd. WCTR during the period of study. The working capital turnover ratio of the CCI Ltd. has been very low and unsatisfactory during the study period. Negative WCTR of CCI Ltd.in the initial two years of the study i.e. 2005-06 to 2006-07, indicates negative working capital and poor working capital management during these years. Average WCTR of CCI Ltd.(0.36 times) has been much lower than industry average WCTR indicating poor working capital management of CCI Ltd. and revealed the fact that the company has not been able to use its working capital to generate sale.

Figure 6.14: Working Capital turnover Ratio of Indian Cement Industry and CCI Ltd.



Source: *ACE Equity database and Annual Reports of CCI Ltd. From 2005-06 to 2014-15*

The above Figure 6.14 shows working capital turnover ratio of Indian cement industry and CCI Ltd. from 2005-06 to 2014-15. WCTR of CCI Ltd. indicates poor working capital management as compared to industry average WCTR.

Table 6.18: Sales growth of Indian Cement Industry and CCI Ltd.

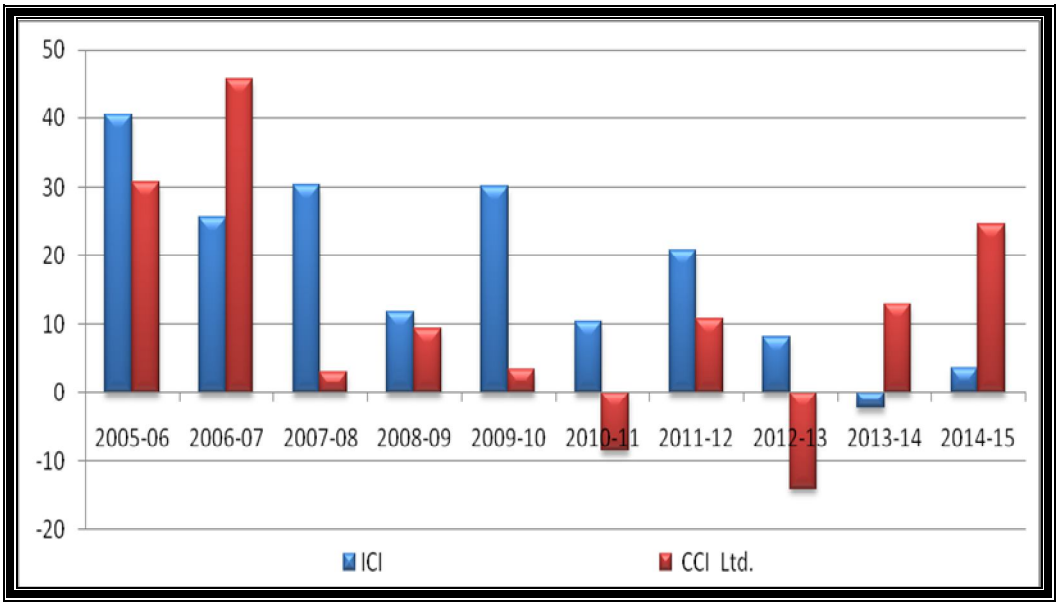
(in per cent)

Year	SG	
	ICI	**CCI Ltd.**
2005-06	40.44	30.64
2006-07	25.42	45.59
2007-08	30.32	2.83
2008-09	11.69	9.31
2009-10	30.18	3.32
2010-11	10.34	-8.5
2011-12	20.74	10.81
2012-13	8.08	-14.14
2013-14	-2.33	12.94
2014-15	3.52	24.52
Average	**17.84**	**11.73**

Source: *ACE Equity database and Annual Reports of CCI Ltd. From 2005-06 to 2014-1-5*

Table 6.18 shows a fluctuating trend of sales growth ratio of CCI Ltd.and industry average ratio over the period of study.The SG of CCI Ltd. remained lower than the industry average ratio over the study period except in 2005-06 and 2013-14. The SG of CCI Ltd. was 30.64 per cent in 2005-06 whereas the industry average was stood at 40.44 per cent. In 2006-07 the SG of CCI Ltd. was increased by 45.59 per cent, whereas, the average was decreased by 25.42 per cent. Further, in 2010-11 and 2012-13, SG of CCI Ltd. shows a negative growth of 8.5 per cent and 14.14 per cent respectively. Whereas the industry average SG remained positive (10.34 per cent and 8.08 per cent) during the 2010-11 and 2012-13, respectively. Finally, in 2014-15 the SG of CCI Ltd. increased and stood at 24.52 per cent whereas SG of industry average showed a positive of growth of 3.52 per cent. Average SG of CCI Ltd. has been lower than the industry average during the study period.

Figure 6.15: Sales Growth of Indian Cement Industry and CCI Ltd.



Source: *ACE Equity database and Annual Reports of CCI Ltd from 2005-06 to 2014-15*

Figure 6.15 shows sales growth of Indian cement industry and CCI Ltd from 2005-06 to 2014-15. Indian cement industry and CCI Ltd has been in a fluctuating trend of sales growth during the study period. Average SG of CCI Ltd. indicates that the company has not been able to increase the sale with the industry average growth rate.

6.3: DU-PONT ANALYSIS

Du-Pont method was developed in 1918 by an engineer in Du-Pont Corporation. It is an indication of the earning power of the firm. Based on Return on net worth (RONW) or Return on Equity (ROE) & Return on Investment (ROI), the Du Pont analysis breaks the return on net worth in three parts. It is a technique used to evaluate the profitability of a company through traditional performance ratios. In DuPont Model the return on equity disaggregates performance into three components: Net Profit Margin, Total Asset Turnover and the Equity Multiplier (Sheela and Karthikeyan, 2012).

Return on Equity = Net Profit Margin x Assets Turnover x Equity Multiplier

- *Net Profit Margin = Net Profit / Sale*
- *Assets Turnover = Sales / Total Assets*
- *Equity Multiplier = Total Assets / Shareholders Fund*

The Du-Pont model is a typical traditional model of measuring financial performance on the basis of accounting income concept. The idea behind the model is that, Return on Investment (ROI) is the best overall financial performance measure and all activities of an organization ultimately contribute to the ROI. It helps the management in concentrating attention on different forces affecting the profit of an organization. An increase in profit can be achieved either by more effective use of capital which will result in a higher turnover ratio or better sale efforts which results in a higher net profit ratio. The same rate of return can be obtained either by a low net profit ratio but a high turnover ratio or vice versa (Rakshit, 2006; Ramesh, 2015; Ramesh, 2015; Nanavati, 2013; Herciu, Ogrean & Belascu, 2011; Teodor & Maria, 2014; Sheela and Karthikeyan, 2012) used Du–Pont analysis in their studies to evaluate the financial performance and return of equity of the firms.

Table 6.19: Du-Pont Analysis of CCI Ltd.

Year	Net Profit Margin	Assets Turnover	Equity Multiplier	RONW
2005-06	4.26	0.12	3.77	1.86
2006-07	0.59	0.18	1.98	0.21
2007-08	0.14	0.18	2.02	0.05
2008-09	0.16	0.20	2.00	0.06
2009-10	0.16	0.20	2.02	0.07
2010-11	0.09	0.20	1.87	0.03
2011-12	0.06	0.22	2.00	0.03
2012-13	0.03	0.18	1.92	0.01
2013-14	0.05	0.21	1.88	0.02
2014-15	0.10	0.27	1.85	0.05

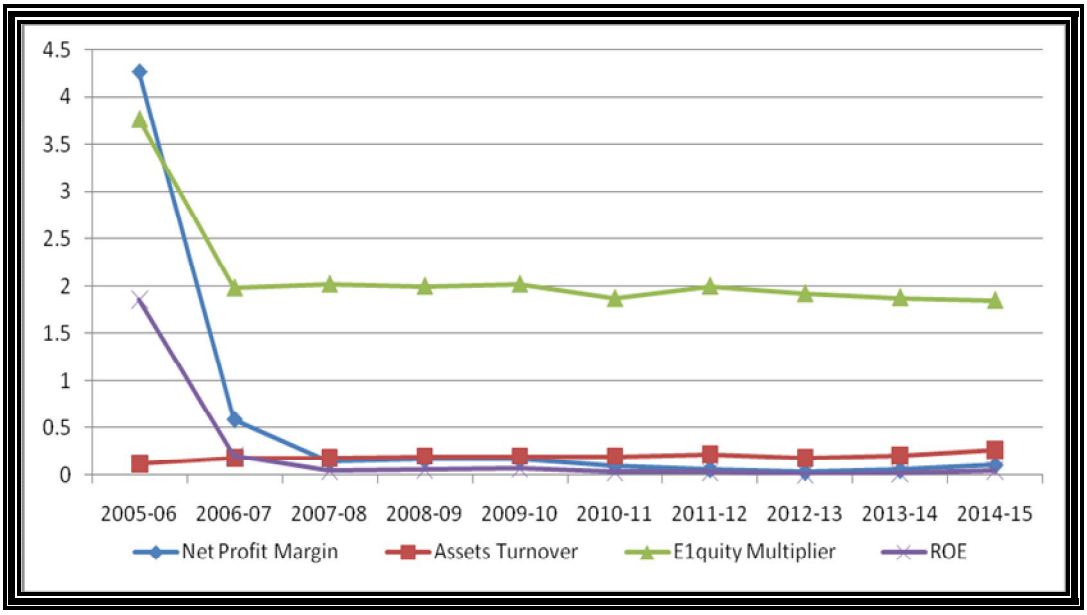
Source: *Calculated from Annual Reports of CCI Ltd. from2005-06 to 2014-15.*

Table 6.19 shows Du-Pont Analysis of CCI Ltd. from 2005-06 to 2014-15. In order to elaborate the Du-Pont Analysis, Net Profit Margin, Assets Turnover and Equity Multiplier have been considered and Return on Equity (RONW) has been calculated. The trend obtained through DuPont Analysis revealed that return on equity was very poor during the study period. However, in 2005-06, the return on equity was in double digit and more than 1 per cent (1.86 per cent) due to adequate net profit margin. On the basis of DuPont analysis it is clearly visible that the company has not been able to

fetch adequate profit during study period. Low leverage effect, low asset turnover and low sale volume gave very poor return on equity during the study period. The return on equity is the multiplication of net profit margin, asset turnover and equity multiplier.

Net profit margin of CCI Ltd. was very low during the entire period of the study. It was 4.26 per cent in 2005-06 which declined during subsequent years and reached to 0.03 percent in 2012-13. Finally, in 2014-15, it increased and reached to 0.10 percent. In the case of Asset turnover of CCI Ltd., it was only 0.12 times in 2005-06which also remains low throughout the study period and finally stood at 0.27 times in 2014-15. Equity multiplier was comparatively in better condition as compared to net profit margin and asset turnover. It was 3.77 per cent in 2005-06 which declined during subsequent years and stood at 1.85 per cent in 2014-15.

Figure 6.16: Net Profit Margin, Asset Turnover, Equity Multiplier and RONW of CCI Ltd. from 2005-06 to 2014-15



Source: *Annual Reports of CCI Ltd. from2005-06 to 2014-15.*

Figure 6.16 demonstrates the trends of Net Profit Margin, Assets Turnover, Equity Multiplier and Return on Equity of Cement Corporation of India Ltd from 2005-06 to 2014-15. Net profit margin has been in fluctuating trend during initial years which became stable during the subsequent years of the study. Assets Turnover shows a constant line during the entire period of the study. Equity Multiplier was as good as other variables in Du-Pont analysis. It contributed more than other factors. It can be

summed up that the company has not performed well and showed very poor position of return on equity throughout the study period.

6.4 ANALYSIS OF CCI LTD. USING ALTMAN Z SCORE MODEL

The Z score model propounded by Altman is one of the best known statistically derived predictive model used to forecast a firm's impending bankruptcy (Moyer, 2005). Edward Altman, a financial economist and professor at New York's Stern School of Business, developed Altman's Z (the Z-Score) in 1968. Altman's Z-Score formula is a multivariate formula used to measure the financial health of a company and to diagnose the probability that a company will go bankrupt within a two-year period. The Z-Score uses various accounting ratios and market-derived price data to predict the bankruptcy (Hayes, S. K. Hodge, K. A. Hughes, and L. W. 2010). Altman Z score has been used in various studies to predict financial health and bankruptcy of various firms (Morten, 2011; Hayes, Hodge and Hughes, 2010; Anjum, 2012; Chouhan, Chandra and Goswami, 2014; Pradhan, 2014).

Table 6.20: Altman Z Score Model of CCI Ltd.

Year	X1	X2	X3	X4	X5	z score
2005-06	-0.07	0	1.56	0.15	0.12	1.76
2006-07	-0.04	0	0.39	0.43	0.18	0.95
2007-08	0.00	0	0.14	0.41	0.18	0.73
2008-09	0.02	0	0.17	0.42	0.20	0.81
2009-10	0.06	0	0.17	0.41	0.20	0.84
2010-11	0.03	0	0.13	0.48	0.20	0.84
2011-12	0.14	0	0.06	0.42	0.22	0.83
2012-13	0.14	0	0.03	0.46	0.18	0.81
2013-14	0.13	0	0.04	0.48	0.21	0.86
2014-15	0.14	0	0.09	0.49	0.27	0.99

Source: *Calculated from Annual Reports of Cement Corporation of India Ltd from 2005-06 to 2014-15*

$Z = 0.717 \cdot X1 + 0.847 \cdot X2 + 3.107 \cdot X3 + 0.420 \cdot X4 + 0.998 \cdot X5$

Where,

Z = Discriminant score

X1 = Net working capital divided by total assets

X2 = Retained earnings divided by total assets.

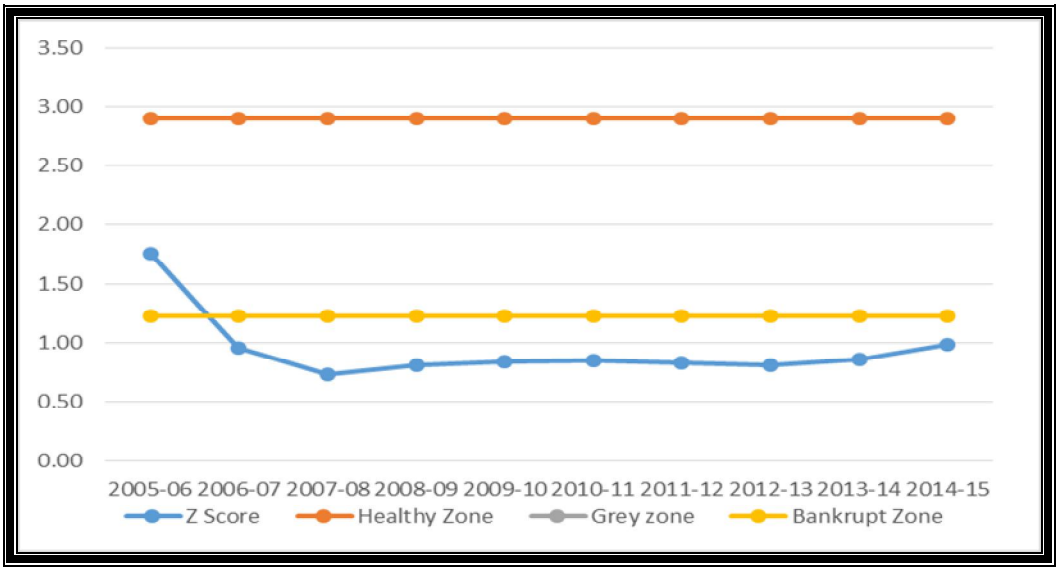
X3 = EBIT divided by total assets

X4 = Book value of equity divided by total liability

X5 = Sales divided by total assets

Table 6.20 depicts the Z-Score value of Cement Corporation of India Ltd from 2005-06 to 2014-15. From the analysis, it is found that the Z-Score of CCI Ltd. has been lower during the study period. It has been ranging from 1.76 to 0.99 during the entire study period, except in 2005-06 i.e. 1.76. In 2005-06, Z score value for CCI Ltd. was the highest of the study period of the company and fall in a Grey zone (safe zone). However, during the remaining years of the study period, the Z score values of CCI Ltd. have been lower than 1.23 score (bankruptcy zone). So, it can be concluded that the company is not in safe position, as the Z-Scores values for the company have fall in the bankruptcy zone (below 1.23 score). As can be seen from table, in the year 2014-15, Z-score of company shows a poor position, as the score was only 0.99, which is less than 1.23 (Danger Level) indicating the bankruptcy zone of the company and also predict financial distress for the company in next two years. Finally, it revealed that CCI Ltd. has been in condition of financial distress and fall in bankrupt zone during 2006-07 to 2014-15, the company is prone to bankruptcy in coming years.

Figure 6.17: Z Scores of CCI Ltd during 2005-06 and 2014-15



Source: *Annual Reports of Cement Corporation of India Ltd from 2005-06 to 2014-15*

The above Figure 6.17 shows the Z score trend of CCI Ltd. Although, from 2005-06 to 2014-15, it has been in grey zone area in the first year of the study period, but it had been in Bankruptcy zone for the remaining years. Thus, it can be concluded that the financial health of CCI Ltd. was poor during the study period except in 2005-06.

6.5 RESULTS OF REGRESSION ANALYSIS

Table 6.21: Descriptive Statistics of Liquidity Ratios

	Mean ± S.D.	**N**
ROCE	11.254±18.865	10
CR	2.313±1.728	10
LR	1.051±0.526	10
CPR	.936±0.603	10

***Source**: SPSS output*

Liquidity and profitability ratios have been considered in order to measure the financial performance of CCI Ltd. From the above analysis, it has been observed that the mean value of return on capital employed, current ratio, liquid ratio and cash position ratio is 11.254, 2.313, 1.051 and .936 times, respectively during the study period which indicates that these ratios are close to their standard norms. The standard deviations of ROCE, CR, LR and CPR are 18.865, 1.728, 0.526 and 0.603 respectively.

Table 6.22: Model Summary of Liquidity Ratios

Model	**R**	**R Square**	**Adjusted R Square**	**Std. Error of the Estimate**	**Change Statistics**				
					R Square Change	**F Change**	**df1**	**df2**	**Sig. F Change**
CR-ROCE	.515	.266	.174	17.14790	.266	2.893	1	8	.127
LR-ROCE	.637[a]	.406	.332	15.41657	.406	5.477	1	8	.047
CPR-ROCE	.670[a]	.448	.379	14.86080	.448	6.503	1	8	.034

***Source**: SPSS output*

Predictors: (Constant) CR, LR, CPR

Table 6.23 Regression Analysis of Liquidity Ratios

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
CR-ROCE	(Constant)	24.261	9.375		2.588	.032
	CR	-5.624	3.306	-.515	-1.701	.127
LR-ROCE	(Constant)	35.256	11.356		3.105	.015
	LR	-22.838	9.579	-.637	-2.340	.047
LR-CPR	(Constant)	30.844	9.005		3.425	.009
	CPR	-20.929	8.207	-.670	-2.550	.034

***Source**: SPSS output*

Dependent Variable: ROCE

H01: There is no significant impact of liquidity on profitability of CCI Ltd.

The above hypothesis has been tested with the help of following three sub hypotheses.

$H0_{1a}$: There is no significant impact of Current Ratio on Return of Capital Employed of CCI Ltd.

Table 6.22 presents the correlation (r) between the current ratio and return on capital employed of CCI Ltd. It has been observed that coefficient of correlation between these variables is 0.515 indicating a positive and moderate relationship between these variables. The coefficient of determination or R^2 (0.266) implies that 26.6 percent of the variance in ROCE is explained by Current Ratio. Table 6.23shows the results of Regression Analysis used to determine the impact of liquidity ratios on return on capital employed. In case of Current Ratio the regression coefficient (beta) is equal to -5.624 which show the negative impact of CR on ROCE. It also signifies that for one unit change in current ratio, there is a -5.624 unit's change in ROCE. Further, the value of significance is *(p = 0.127)* which is greater than the 0.05, therefore the impact of CR on ROCE is statistically insignificant. Hence, the null hypothesis ***$H0_{1a}$*** is accepted.

$H0_{1b}$: There is no significant impact of Liquid Ratio on Return of Capital Employed of CCI Ltd.

Table 6.22 shows the correlation (r) between the liquid ratio and return on capital employed of CCI Ltd. The coefficient of determination or R^2 (0.406) implies that 40.6 per cent of the variance in ROCE is explained by liquid ratio. The table 6.23 also

examines the relationship between these variables that gives the value of coefficient of correlation at .637 indicating a positive and moderate degree of correlation.The above table 6.23 shows the impact of LR on return of capital employed of CCI Ltd., it can be seen from simple regression analysis that the effect of LR on ROCE is statistically significant (p = 0.047). The regression coefficient (beta) is equal to -22.838 which show negative impact of LR on ROCE. It also signifies that for one unit change in current ratio, there is a -22.838 unit's change in ROCE. Hence the null hypothesis $\boldsymbol{H0_{1b}}$ is rejected.

$H0_{1c}$: There is no significant impact of Cash Position Ratio on Return of Capital Employed of CCI Ltd.

Table 6.22 presents the correlation (r) between the cash position ratio and return on capital employed of CCI Ltd. It has been observed that coefficient of correlation between these variables is 0.670 which indicate a positive correlation between these variables. The coefficient of determination or R^2 (0.379) implies that 37.9 percent of the variance in ROCE is explained by CPR. The above table 6.24 shows the results of Regression Analysis used to validate the impact of CPR on return on capital employed. The results revealed that the Cash Position Ratio has negative impact on ROCE. The value of unstandardized coefficient (B=-20.929) signifies that for one unit change in current ratio, there is a -20.929 unit's change in ROCE. Further, the value of significance is *(p = 0.034)* is less than 0.05. Therefore, the impact of CPR on ROCE is statistically significant. Hence the null hypothesis $\boldsymbol{H0_{1c}}$ is rejected.

$H0_2$: There is no significant impact of Solvency Ratios on Return of Capital Employed of CCI Ltd.

The above hypothesis has been tested with the help of following three sub hypotheses.

Table 6.24: Descriptive Statistics of Solvency Ratios

	Mean ± S.D.	**N**
DER	.778±.442	10
ICR	11.529±22.018	10
PR	48.883±8.054	10

***Source**: SPSS output*

The statistical description of solvency ratios of CCI Ltd. is being presented in table 6.24. It includes debt equity ratio, proprietary ratio and interest coverage ratio. The

mean value of DER, ICR and PR are 0.778, 11.529 and 48.883, respectively and their standard deviations are .442, 22.018 and 8.054, respectively.

Table 6.25: Model Summary of Solvency Ratios

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
DER-ROCE	.876[a]	.768	-.739	9.63656	.768	26.492	1	8	.001
ICR-ROCE	.955[a]	.912	.901	5.94490	.912	82.629	1	8	.000
PR-ROCE	.970[a]	.940	.933	4.89785	.940	125.520	1	8	.000

Source: *SPSS output*

a. Predictors: (Constant), DER

b. Predictors: (Constant), ICR

c. Predictors: (Constant), PR

Table 6.26: Regression Analysis of Solvency Ratios

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
DER-ROCE	(Constant)	-17.800	6.415		-2.775	.024
	DER	37.345	7.256	.876	5.147	.001
ICR-ROCE	(Constant)	1.822	2.147		.849	.421
	ICR	.818	.090	.955	9.090	.000
PR-ROCE	(Constant)	122.259	10.028		12.191	.000
	PR	-2.271	.203	-.970	-11.204	.000

Source*: SPSS output*

a. Dependent Variable: ROCE

$H0_{2a}$: There is no significant impact of Debt Equity Ratio on Return of Capital Employed of CCI Ltd.

Table 6.25 depicts the results regression coefficient of ROCE and solvency ratios of Cement Corporation of India from 2005-06 to 2014-15. The correlation between debt equity ratio and return on capital employed of CCI Ltd. is 0.876 indicates a positively high degree of correlation between these variables. The coefficient of determination or R^2 (0.768) implies that 76.8 per cent of the variance in ROCE is explained by DER. Table 6.26 indicates the impact of DER on return of capital employed of CCI Ltd.

The value of beta coefficient is 37.345 which shows a positive impact of DER on ROCE and signify that for every unit change in DER, there is only 37.345 unit's change in ROCE. Further, the significance value of .001($p < 0.05$), indicating a significant impact of DER on ROCE. Therefore, the null hypothesis ***$H0_{2a}$*** is rejected.

$H0_{2b}$: There is no significant impact of Interest Coverage Ratio on Return of Capital Employed of CCI Ltd.

Table 6.25 shows the correlation (r) between the interest coverage ratio and return on capital employed of CCI Ltd. The value of coefficient of correlation (.955) indicates a positively high relationship between the variables. The coefficient of determination or R^2 (0.912) implies that 91.2 per cent of the variance in ROCE is explained by ICR.

The value of beta coefficient in Table 6.26 (.818) signifies that for every one unit change in ICR, there is only 0.818 unit's change in ROCE. Further, the significant value is 0.000, which is less than the critical value i.e. 0.05. It leads to the rejection of the null hypothesis ***$H0_{2b}$*** and shows that there is no significant impact of ICR on Return on Capital Employed of CCI Ltd.

$H0_{2c}$: *There is no significant impact of Propriety Ratio on Return of Capital Employed of CCI Ltd.*

Table 6.25, shows the coefficient of correlation between proprietary ratio and return on capital employed of CCI Ltd.is 0.970 which indicate a positive high correlation. The coefficient of determination (R^2) is .940 which indicates that 94.0 percent of the variance in ROCE is explained by PR. The table 6.26 shows results of regression analysis are also discussed in order to validate the impact of PR on return on capital employed. The results reveals that the proprietary ratio has a negative impact on ROCE with the value of unstandardized coefficient B=-2.271, which signifies that for every one unit change in current ratio, there is a -2.271unit's change in ROCE. Further, the value of significant is *($p = 0.000$),* less than 0.05, therefore, the impact of PR on ROCE is statistically significant. Hence the null hypothesis ***$H0_{2c}$*** is rejected.

$H0_3$: There is no significant impact of Turnover ratios on Return of Capital Employed of CCI Ltd.

The above hypothesis has been tested with the help of following three sub hypotheses.

Table 6.27: Descriptive Statistics of Turnover Ratios

	Mean ± S.D.	N
STOR	1.543±.1968	10
TATR	.1960±0.377	10
WCTOR	.3590±0.510	10

***Source**: SPSS output*

The ability of the company to revolve their investment is presented through stock turnover ratio, total asset turnover ratio and working capital turnover ratio and the mean value of these ratios are 1.543, .1960 and .3590, respectively, and their standard deviations are 0.196, 0.377 and 0.510, respectively.

Table 6.28: Model Summary of Turnover Ratios

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
STOR-ROCE	.450[a]	.203	.103	17.86845	.203	2.032	1	8	.039
TATR-ROCE	.752	.565	.511	13.19452	.565	10.398	1	8	.012
WCTR-ROCE	.798[a]	.637	.592	12.05644	.637	14.035	1	8	.006

***Source**: SPSS output*

a. Predictors: (Constant), STOR

b. Predictors: (Constant), TATR

c. Predictors: (Constant), WCTOR

Table 6.29: Regression Analysis of Turnover Ratios

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
STOR-ROCE	(Constant)	-55.290	47.024		-1.176	.273
	STOR	43.126	30.255	.450	1.425	.039
TATR-ROCE	(Constant)	84.848	23.201		3.657	.006
	TATR	-375.478	116.442	-.752	-3.225	.012
WCTR-ROCE	(Constant)	21.840	4.746		4.602	.002
	WCTR	-29.489	.7871	-.798	-3.746	.006

***Source**: SPSS output*

Dependent Variable: ROCE

$H0_{3a}$: There is no significant impact of Stock Turnover Ratio on Return of Capital Employed of CCI Ltd.

Table 6.28 presents the correlation (r) between the stock turnover ratio and return on capital employed of CCI Ltd. This has been observed that coefficient of correlation between these variables is 0.450 which indicate a positively low degree of correlation between these variables. The coefficient of determination (R^2) is at .203 which implies that 20.3 per cent of the variance in ROCE is explained by the relationship between these variables. Table 6.29 shows the impact of stock turnover ratio on return of capital employed of CCI Ltd.It is observed that the value of beta coefficient is 43.126, which shows the positive impact of STOR on ROCE, it also signify that for every one unit change in STOR, there are 43.126 units change in ROCE. Further, the significant value is 0.039 which is less than the critical value i.e. 0.05. Therefore, the impact of STOR on ROCE is statistically significant, hence the null hypothesis ***$H0_{3a}$*** is rejected.

$H0_{3b}$: There is no significant impact of Total Asset Turnover Ratio on Return of Capital Employed of CCI Ltd.

The above table 6.28 presents the correlation (r) between the total asset turnover ratio and return on capital employed of CCI Ltd. This has been observed that coefficient of correlation between these variables is 0.752 which indicates a positive relationship between these variables. The coefficient of determination (R^2) is at .565 which implies that 56.5 percent of the variance in ROCE is explained by the relationship between these variables. The results of Regression Analysis used to validate the impact of TATR on return on capital employed. The results reveals that the TATR has a negative impact on ROCE with the value of unstandardized coefficient, B=-375.78, which signifies that for every one unit change in current ratio, there is a -375.78units change in ROCE. Further, the value of significant is *($p = 0.012$)* less than 0.05. Therefore, the impact of TATR on ROCE is statistically significant, hence the null hypothesis ***$H0_{3b}$*** is rejected.

$H0_{3c}$: There is no significant impact of Working Capital Turnover Ratio on Return of Capital Employed of CCI Ltd.

Table 6.28 shows the correlation (r) between the interest coverage ratio and return on capital employed of CCI Ltd. The coefficient of determination (R^2) is at .637, which implies that 63.7 per cent of the variance in ROCE is explained by WCTR. The table

6.29 also examines the relationship between these variables that gives the value of coefficient of correlation at .798 which provides a positively high degree of correlation between dependent and independent variables. The above table 6.29 shows the results of Regression Analysis used to determine the impact of WCTR on return on capital employed. The results reveals that the WCTR has negative impact on ROCE with the value of unstandardized coefficient, B=-29.489, which signifies that for every one unit change in current ratio, there is a -29.489units change in ROCE. Further, the value of significant *(p = 0.006)* is less than 0.05, therefore, the impact of WCTR on ROCE is statistically significant. Hence the null hypothesis $H0_{3c}$ is rejected.

$H0_4$: There is no significant impact of Sales on Net Profit of CCI Ltd.

Table 6.30: Descriptive Statistics of Sales and Net Profit

	Mean	Std. Deviation	N
NP	12555.9000	25217.50473	10
sales	30739.8000	5252.07836	10

***Source**: SPSS output*

The above table 6.30 exhibits mean value of sales is 307039.800and the standard deviation is 5252.078, respectively.

Table 6.31: Model Summary of Sales and Net Profit

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
Sales-NP	.768[a]	.590	.539	17122.00421	.590	11.523	1	8	.009

***Source**: SPSS output*

Predictors: (Constant), sales

Table 6.32 Regression Analysis of Sales and Net Profit of CCI Ltd.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
Sales-NP	(Constant)	125946.832	33840.327		3.722	.006
	sales	-3.689	1.087	-.768	-3.394	.009

***Source**: SPSS output*

Dependent Variable: NP

Table 6.31 presents the regression analysis of profitability ratio (NP) and sales of CCI Ltd. from 2005-06 to 2014-15. The above result shows the correlation (r) between the sales and net profit ratio of CCI Ltd. The coefficient of determination (R^2) is at .590 which implies that 59.0 per cent of the variance in NP is explained by the relationship between these variables. The table 6.31 also examines the relationship between sales growth and return on capital employed that gives the coefficient of correlation at .768 which provides a positive high degree of correlation. The above table 6.32 shows the result of regression analysis used to determine the impact of sales on net profit ratio. This has been observed that the value of beta coefficient is -3.689 which shows a negative impact of sales on NPR and signify that for every one unit change in sales, there is an-3.689 units change in ROCE. Further, the value of sig (p = 0.009) is less than the critical value (0.05), therefore, the impact of sales on net profit ratiois statistically significant. Hence, the null hypothesis ***H0₄*** that there is no significant impact of sales on net profit ratio is rejected.

6.6 RESULTS OF PAIRED T TEST

Table 6.33 Result of Paired t-test

Pairs	Mean		Standard deviation		Paired difference			t	df	Sig. (2-tailed)
	Before	After	Before	After	Mean	Std. Deviation	Std. Error Mean			
CR	0.6222	2.5078	0.27685	1.71326	-1.89	1.88653	0.62884	-2.998	8	.017
GPR	14.1833	39.8056	25.6017	7.84483	-25.62	31.0137	10.3379	-2.478	8	.038
ROCE	1.1667	5.4556	6.31713	4.70399	-6.62	6.0516	2.0172	-3.283	8	.011
DER	2.64	0.6444	0.96062	0.14081	1.99	0.88057	0.29352	6.799	8	.000
TATR	0.0922	0.2044	0.05495	0.02833	-0.12	0.06553	0.02184	-5.137	8	.001

***Source**: SPSS output*

CR=Current Ratio, GPR= Gross Profit Ratio, ROCE = Return on Capital Employed, DER=Debt to Equity Ratio, TATR=Total assets Turnover Ratio,

$H0_5$: There is no significant impact of Financial restructuring on financial performance of the CCI Ltd.

The above hypothesis has been tested with the help of following five sub hypotheses.

$H0_{5a}$: There is no significant impact of Financial restructuring on Current Ratio of the CCI Ltd.

The table 6.33 shows result of paired t-test analysis of Current ratio of CCI Ltd. before and after the financial restructuring. The t value of -2.998 with the significance value (two-tailed) of 0.017, which is less than 0.05, implies that the variation in current ratio of CCI Ltd., before and after the financial restructuring, is highly consequential. Hence, there is significant impact of financial restructuring on current ratio of CCI Ltd. Thus, the null hypothesis $H0_{5a}$ is rejected.

$H0_{5b}$: There is no significant impact of Financial restructuring on the Gross Profit Ratio of the CCI Ltd

Based on the above results of paired t test analysis at 95% confidence level shown in table 6.33, The table 6.33 shows the t value of -2.478 with significance value (two-tailed) of 0.38, which is less than the critical value of 0.05. Hence, it may be concluded that there is significant impact of financial restructuring on GPR of CCI Ltd. Thus, the null hypothesis $H0_{6b}$ is rejected.

$H0_{5c}$: There is no significant impact of Financial restructuring on the Return on Capital Employed of CCI Ltd.

In table 6.33, the t value of -3.283 and significant value (two-tailed) of 0.011, which is less than 0.05, indicates that the variation in return on capital employed of CCI Ltd. before and after the financial restructuring is highly significant. Hence, it may be concluded that there is significant impact of financial restructuring on ROCE of CCI Ltd. Thus, the null hypothesis $H0_{5c}$ is rejected.

$H0_{5d}$: There is no significant impact of Financial restructuring on the Debt Equity Ratio of CCI Ltd.

The above table 6.33 shows the results of paired t test analysis of Debt Equity ratio of CCI Ltd. before and after the financial restructuring. As can be seen in the table, the t value is 6.799 and significance value (two-tailed) or p value is 0.00, which is less than the critical value of 0.05. Hence, it may be concluded that there is significant difference impact of financial restructuring on DER of CCI Ltd. Thus, the null hypothesis $H0_{5d}$ is rejected.

$H0_{5e}$: There is no significant impact of Financial restructuring on the Total Asset Turnover Ratio of CCI Ltd.

Based on the above results of the paired t test analysis at 95% confidence level shown in table 6.33, the t value is and -5.137 significance value two (tailed) or p value is worked out as 0.01, which is less than the critical value of 0.05. Hence, it may be concluded that there is significant impact of financial restructuring on total asset turnover ratio of CCI Ltd. Thus, the null hypothesis $H0_{5e}$ is rejected.

6.7 RESULT OF ONE SAMPLE T-TEST

In this section of the study financial performance ratios of CCI Ltd. has been compared with their industry average ratios with the help of one sample t-test. Industry average ratios has been used as standard ratios and average of ten years industry average ratios has been used as test value for hypotheses testing.

Table 6.34: Result of One-Sample T-Test

Ratios	Mean (CCI LTD.)	Industry average	t value	Sig. (t Value)
CR	2.313	1.442	1.593	.146
ROCE	4.91	17.751	-8.533	.000
RONW	5.249	21.993	-9.047	.000
DER	0.58	0.912	-4.317	.002
SG	15.04	19.43	-727	.486
TATR	0.196	0.76	-47.219	.000
WCTOR	0.359	14.01	-84.86	.000

***Source**: SPSS output*
ROCE = Return on Capital Employed, RONW=Return on Equity, CR=Current Ratio, DER=Debt to Equity Ratio, SG=sales growth ratio, TATR=Total assets Turnover ratio, WTR=Working Capital.

The above table 6.34 shows the results of significance difference between the different parameters of Indian Cement Industry and Cement Corporation of India Ltd. A number of accounting ratios have been taken for the purpose of comparative analysis. The results of the analyses are as follows:

$H0_6$: There is no significant difference in financial performance of Indian Cement Industry and Cement Corporation of India Ltd.

The above hypothesis has been tested with the help of following seven sub hypotheses.

H_{6a}: There is no significant difference between average Current Ratio of Indian Cement Industry and Cement Corporation of India Ltd

Table 6.34 depicts the mean value of CR of CCI Ltd. (2.313) which is higher than our test value of 1.442. The above table 5.25 shows the t value of 1.593 with significance value of 0.146. The higher value of significance (Sig.>0.05) shows that 2.313 is not significantly different from 1.442. Therefore, observed mean of CR is not significantly different from the test value. Thus the null hypothesis H_{6a} is accepted.

$H0_{6b}$: There is no significant difference between average Return on Capital Employed of Indian Cement Industry and Cement Corporation of India Ltd.

The above table shows the mean value of ROCE (4.9100 per cent) which is lower than our test value of 17.751. The above table shows the t value of -8.533 with significance value of 0.00. The lower value of significance (Sig. > 0.05) indicates that 4.9100 is significantly different from 17.751. Therefore, observed mean of ROCE is significantly different from the test value. Thus the null hypothesis $H0_{6b}$ is rejected.

$H0_{6c}$: There is no significant difference between Return on Net worth of Indian Cement Industry and Cement Corporation of India Ltd.

The above table 6.34, depicts the mean value of RONW is 5.249. The negative t value -9.407 implies that the mean of RONW is lower than the test value of 21.993. The *p*-value of.000 is lower than the level of significance 0.05. It indicates that the RONW of CCI Ltd. is significantly different from the test value of average of cement industry. Thus, the null hypothesis $H0_{6c}$ is rejected.

$H0_{6d}$: There is no significant difference between Debt Equity Ratio of Indian Cement Industry and Cement Corporation of India Ltd.

The above table 6.34 shows the mean value of DER of CCI Ltd. The mean value of DER is 0.58 which is lower than test value of ICI. The above table shows the t value of -4.317 with significance value of 0.002. The lower value of significance (Sig. < 0.05) indicates that 0.58 is significantly different from 0.912. Therefore, observed mean of DER is significantly different from the test value. Thus the null hypothesis $H0_{6d}$ is rejected.

$H0_{6e}$: There is no significant difference between Sales Growth of Indian Cement Industry and Cement Corporation of India Ltd.

Table 6.34 depicts the mean value of SG is 15.04. The negative t value (-727) implies that the mean of sales growth is lower than the test value of 19.43 with the significance value of 0.486, which is higher than the level of significance 0.05. It clearly shows that the Sales Growth of CCI LTD. is not significantly different from the test value. Thus the null hypothesis $H0_{6e}$ is accepted.

$H0_{6f}$: There is no significant difference between Total Asset Turnover Ratio of Indian Cement Industry and Cement Corporation of India Ltd.

Table 6.34 depicts the mean value of TATR is 0.196. The negative t value (-47.219) implies that the mean of TATR is lower than the test value of 0.76.The significance value of the test is .000, which is lower than the level of significance (Sig.<0.05). It shows that the TATR of CCI LTD. is significantly different from test value. Thus, the null hypothesis $H0_{6f}$ is rejected.

$H0_{6g}$: There is no significant difference between Working Capital Turnover Ratio of Indian Cement Industry and Cement Corporation of India Ltd.

The above table 6.34 shows the mean value of WCTOR. The mean value of WCTOR is 0.359 which is lower than test value. The above table shows the t value of -84.86 with significance value of 0.000. The lower value of significance (Sig. <0.05) shows that 0.359 is significantly different from 14.01. Therefore, observed mean of WCTOR is significantly different from the test value. Thus, the null hypothesis $H0_{6g}$ is rejected.

A number of commonly used accounting tools and techniques of financial performance evaluation have been discussed in this chapter. The next chapter deals with the Findings, suggestions and Conclusion of the study.

REFERENCES

Anjum, S. (2012). Business bankruptcy prediction models: A significant study of the Altman's Z score model. *Asian Journal of Management Research 3*(1), 212-219. Retrieved from http://www.ipublishing.co.in/ajmrvol1no1/ volthree/ EIJMRS3018.pdf

Chouhan, V., Chandra, B. & Goswami, S. (2014). Predicting financial stability of selected BSE companies revisiting Altman Z score. *International Letters of Social and Humanistic Sciences,26,* 92-105 doi:10.18052/www.scipress. com/ILSHS.26.92

Debarshi, B. (2011). *Analysis and interpretation of financial statements.* Management accounting. India: Pearson Education.

Gerald, I. W., Ashwinpaul, S. & Dov, F. (1998). *The analysis and use of financial statements.* India: John Wiley & Sons.

Hayes, S. K., Hodge, K. A. & Hughes, L. W. (2010). A Study of the efficacy of Altman's Z to predict bankruptcy of specialty retail firms doing business in contemporary times. *Economics & Business Journal: Inquiries & Perspectives (3)*1, 130-134. Retrieved from: http://ecedweb.unomaha.edu/EBJI%202010 HayesHodgeHughes.pdf

Herciu, M., Ogrean, C., & Belascu, L. (2011). A DuPont analysis of the 20 most profitable companies in the world, *International Conference on Business and Economics Research*. Kuala Lumpur, Malaysia. Retrieved from http://www.ipedr.com/vol1/10-B00015.pdf

Khan, M. Y. & Jain, P. K. (2011). *Financial management: Text, problems and cases*, 6 Ed. 6.24, New Delhi: McGraw-Hill Education Pvt Ltd.

Mohana, R. P. (2011). *Financial statement analysis and reporting,* Financial statement analysis. New Delhi: PHI Learning.

Morten, R. A. (2011). *Applying Altman's Z-Score to the financial crisis an empirical study of financial distress on Oslo stock exchange,* Doctoral Thesis, Norwegian School of Economics Bergen, 14-45. Retrieved from https://brage.bibsys.no/xmlui//bitstream/handle/11250/169347/Aasen%202011 .pdf?sequence=1

Nanavati, N. K. (2013). Dupont Analysis to Measure Return On Equity Of Satyam Computer Services Ltd (Now Known As Mahindra Satyam Ltd), *Indian*

journal of research, 2(3), 38-40. Retreived from http: //www. Worldwidejourn als.com/paripex/file .php?val=March_2013_1363609321_829fa_14.pdf

Pradhan, R. (2014). Z Score Estimation for Indian Banking Sector. *International Journal of Trade, Economics and Finance, 5*(6), 516-520. Retrieved from http://www.ijtef.org/papers/425-M21025.pdf

Ramesh, M. P. (2015). DuPont Analysis of Axis Bank. *Asian Journal Of Management Research,5*(4)566-569.Retreived from http://www.ipublishing.co.in/ajmrvol1n o 1/ volfive/EIJMRS5233.pdf

Ramesh, M. P. (2015). The Use of DuPont Analysis by Market Participants, *The Accounting Review, 83*(3), 823-853. Retreived from http://faculty.haas. berkeley.edu/kli/papers/So liman-2008TAR.p df

Sarngadharan, M. & Kumar, R. S. (2011). *Financial analysis for management decisions.* New Delhi: PHI Learning Pvt. Ltd. Retrieved from https:// books .google.co. in/books?id=j watY Q j O PrMC

Sheela, S. C and Karthikeyan, K. (2012).Financial Performance of Pharmaceutical Industry in India using DuPont Analysis, *European Journal of Business and Management 4*(4), 84-91. Retreived from http://pakacademicsearch.com/pdf-files/ ech/517/84-91% 20Vol% 204,%20 No%2014%20(2012).pdf

Teodor, H. & Maria, A. T. (2014). The Profit and Loss Account and the DuPont Analysis Study Models of Performance in Companies Listed on BSE. *Wseas Transactions on Business and Economics 11*. Retreived from http://wwwseas. org/ multimedia/journals/economics/2014/a065707-288.pdf

Chapter – 7

Findings, Conclusion and Suggestions

7.0 INTRODUCTION

The previous chapter covers the detailed analysis and interpretation of financial performance of CCI Ltd for the period from 2005-06 to 2014-15. The present chapter deals with the findings, conclusion and suggestions based on the analysis and interpretation of available data of CCI Ltd. The chapter also provides the guidelines for future research work. Efforts have been made to summarize and conclude whole study and to give meaningful suggestions in order to achieve the desire objectives. Thus, in the light of the findings, the present study gives suggestions for improving the efficiency, effectiveness and profitability of CCI Ltd.

The present research covers the period of ten years from 2005-06 to 2014-15. The main objective of the study is to evaluate financial performance of CCI Ltd and to find out various factors which affect the liquidity, solvency, profitability and operating performance of the company.

7.1. FINDINGS OF THE STUDY

The findings are based on in-depth investigation of the research problem and the analysis of the data of CCI Ltd. The findings are as under:

7.1.1 Findings based on common size balance sheet

1. From the common size balance sheet it has been found that the contribution of current assets and fixed assets is very low in total assets. Current assets constituted only 11.80 per cent of total in 2005-06 while the fixed assets were merely 8.84 per cent of total assets due to other intangible assets (loss) of the company. Current assets increased in the following years and reached to become 25.68 per cent of total assets in 2008-09 but no change was occurred in fixed assets as they were only 8.01 per cent in 2008-09. Further, the contribution of fixed assets increased to become 15.04 percent in 2014-15 where as current assets were almost same during the remaining study period. It was also observed that the company has invested a very low amount in inventories as well as in fixed assets. The position of current assets was almost

similar during the entire study period while the fixed assets of the company showed some improvement and gradual increase.

2. During the study period, major portion of total assets was made up of the accumulated loss of the company suffered by it during previous years. Other intangible assets (loss), covering a major portion of the total assets, were 79.34 per cent of the total assets in 2005-06, which declined during subsequent years of the study to become 59.98 per cent in 2014-15.
3. Outside liabilities and shareholder's funds of the company constituted approximately 74 per cent and 26 per cent, respectively, of the total capital during the initial years of the study. Company's outside liability declined during the subsequent years to become 46 per cent of total capital in 2014-15 whereas shareholders' funds increased and stood at 54 percent of total capital in 2014-15.
4. Contribution of current liabilities in the total liability was 14.18 per cent in 2005-06, which increased to become 16.60 per cent in 2008-09. In the year 2011-12, the current liability of the CCI declined to Rs.2620 lacs, showing a share of 1.70 per cent in the total liability. Further, it increased, but still remained lower, to only 4.39 per cent of total liabilities in 2014-15.
5. In 2005-06, Long term liabilities constituted 52.40 per cent of the total liabilities, which declined over the study period to become 40.63 per cent in 2014-15.
6. In 2005-06, Equity share capital of CCI Ltd was 26.52 per cent of total liabilities which increased bytwo times to become 52.62 per cent in 2007-08 which finally reached to 53.91per cent of the total liabilities in 2014-15 while there was no reserve and surplus of CCI Ltd over the study period.

7.1.2 Findings based on Common size Income statement

1. The cost of sales of CCI Ltd. were very high during the study period as it constitutes approximately 80.30 per cent of sales in the year 2005-06, which declined to 52 percent in 2008-09 and further increased to 67.23 percent in 2014-15. It revealed that company's cost of sales was very high and CCI Ltd. had not control its direct expenses except during the initial years of the study.
2. The maximum revenue of CCI Ltd has been utilized on the direct expenses and therefore, high cost of goods sold led to low gross profit margin.

3. Gross profit of the company was 19.69 per cent of the net sales in 2005-06, which increased to become 48 percent in 2008-09 and finally diminished to become 32.76 per cent in 2014-15.
4. It has been observed that the cost of sales has increased over the years having its direct impact on the profit earning capacity of the company under study. The reason behind this could be the increasing direct expenses and the purchase of materials on high rate from markets.
5. Operating expenses of CCI Ltd. were very high during the initial years of the study, as it was 70.38 per cent of sales in 2005-06. In 2007-08, it declined to become 33.28 per cent of net sales, which showed that the company has controlled its expenses during this year. Further, it again increased to 36.28 per cent in 2014-15. High operating expenses led to low operating profit. The operating profit of CCI has been negative duringstudy period except in 2008-09 which clearly indicates that the indirect expenses of the CCI have been very high during study period.
6. Other income of CCI Ltd has played an important role in profitability of the company. In 2005-06, the other income of CCI Ltd was very high (Rs.94253 lacs) and was 482.80 Percent of sales which declined to become 14.17 per cent in 2014-15.
7. Earnings before Interest and Taxes followed the same pattern as other income. It was 432.11 per cent of sales in 2005-06, which declined to become10.65 per cent of the sales in 2014-15.
8. CCI Ltd. paid its highest interest of Rs. 3737 lacs, which was 11.68 per cent of the sales in 2008-09. Further, it declined over the years and reached to only 0.73 per cent in 2014-15, indicating that the company has decreased its loans and long term debts during study period.
9. Profit before tax and profit after tax remained almost same for most of years during study period as in 2005-06 and 2008-09, CCI Ltd paid only 0.11 per cent tax while during the remaining years of the study, no tax was paid by CCI Ltd.
10. In 2005-06, CCI Ltd earned a very high profit after tax (Rs.83185 lacs) which was 426.10 per cent of the sales. It declined during the study period and become only 9.91 per cent of the sales in 2014-15.

7.1.3 Findings based on Comparative Income Statement analysis of CCI Ltd.

1. CCI Ltd experienced a robust growth in sales during initial years of the study. Net sales of CCI Ltd. has increased on a continuous basis as it was Rs. 19522 lacs in 2005-06 which rose to its highest level of Rs. 40410 lacs in 2014-15.
2. Cost of sales of the company has increased over the years on a continuous basis similar to total sales of the company.
3. Gross Profit of CCI Ltd increased by 298.36 per cent from 2005-06 to 2008-09. It registered a significant growth till 2008-09, which reached from Rs. 3845 lacs in 2004-05 to Rs.15317 lacs in 2008-09. During the last years of the study, the gross profit showed a decreasing growth rate and stood at 2.64 per cent in 2014-15 indicating the impact of high cost of sales on the business operations of company.
4. Operating profit of CCI Ltd has been negative over the study period, except in 2008-09. Earnings before interest and tax (EBIT) of CCI Ltd was very high (Rs. 84358 lacs) in 2005-06, which declined over the study period.
5. Profit before tax of CCI Ltd. showed a mixed trend of growth during the study period. However, it increased during last years of study period by 106 per cent in 2014-15 as compared to the profit of 2011-12.
6. Growth of profit after tax has been in mixed trendduring the study period.

7.1.4 Findings based on comparative balance sheet analysis

1. From the comparative balance sheet, it has been observed that the current liability of CCI Ltd. decreased by 12.06 percent from 2005-06 to 2008-09. Again current liability decreased by 76.59 from 2009-10 to 2011-12 and stood at Rs. 6320 lacs in 2011-12. However, it increased by 4.43 per cent from 2012-13 to 2014-15, indicating that the company has preferred loans than any other sources of finance.
2. During initial years of the study, the long term debt was brought down by 50.07 per cent by the CCI Ltd. from 2005-06 to 2008-09 while from 2009-10 to 201l-12, it increased by 41.67 per cent. Further, during the last years of the study i.e. from 2012-13 to 2014-15, it again slightly decreased by 2.07 per cent.

3. Total liabilities of CCI Ltd. has been in decreasing trend over the study period It was Rs. 123799 lacs in 2005-06 which declined to almost 44 per cent to become Rs.69364 lacs in 2014-15.
4. In 2005-06, Share capital of CCI Ltd. was Rs.44682 lacs, which increased by 81.06 per cent to become Rs.81141 lacs in 2008-09 and remain the same till 2014-15.
5. Because of low profit and accumulated loss of previous years, CCI Ltd. was unable to maintain its reserve and surplus, which remained zero during the study period.
6. Current assets of the CCI showed a considerable growth of 109.90 per cent from 2005-06 to 2008-09. However, there was a negative growth rate of 2.81 per cent in current assets of CCI Ltd from 2008-09 to 2011-12. Further, total current assets of CCI Ltd. again decreased by 7.38 per cent from 2011-12 to 2014-15.
7. Fixed assets of CCI Ltd. reduced by 12.59 per cent from 2005-06 to 2008-09. However, it registered a positive growth of 32.22 percent from 2008-09 to 2011-12 and a positive growth of 31.37 per cent from 2011-12 to 2014-15.
8. Total assets of CCI Ltd. showed a declining trend over the study period.

7.1.5 Findings based on Ratio analysis

1. Current ratio of CCI ltd. has been in range of 0.56 times (2005-06) and 4.03 times (2014-15) during the period of study. Current ratio of CCI Ltd. shows unsatisfactory liquidity position during the period of study. From 2005-06 to 2010-11, current ratio was lowerthan the standard ratio of 2:1 indicating condition of financial distress during these years. During the remaining years, it was higher than the standard norm, indicating blockage of fund.
2. Liquid ratio of CCI Ltd. ranged between 0.31 times to 2.39 times from 2005-06 to 2014-15. During initial years of study, Liquid ratio was lower than the standard norm of 1:1 indicating unsatisfactory liquidity position. However, it increased to become 1.08 times in 2009-10, indicating quite satisfactory liquidity position in this year. It further increased to 2.32 and 2.74 times in 2010-11 and 2011-12, respectively, which revealed extra blockage of fund in liquid assets. Mean value of liquid ratio (1.18 times) has been satisfactory during study period.

3. Although, Cash position ratio of CCI Ltd.has been in fluctuating trend, but the mean value of 0.94 indicates a satisfactory cash level during the study period.
4. Considering the overall liquidity position, it has been found that the company under study has remained in an uncomfortable liquidity position during most of the study period.
5. Proprietary ratio highlights the proportion of shareholder's fund in total assets. From the analysis it has been found that the proprietary ratio of CCI Ltd. Indicated that the proportion of shareholders' fund was very low in 2005-06 (0.27 times) indicating risky position for the shareholders in this year. However, Proprietary ratio of CCI Ltd. has been around 50 per cent during the subsequent years indicating that the proportion of Shareholders' fund increased during these years.
6. Debt Equity ratio has been in mixed trend during the study period. DER value of 1.98 times in 2005-06 indicates highly leverage and risky position of the company in this year. However, the mean value of 0.78 times indicates higher proportion of equity in capital structure of CCI Ltd. during study period. The DER ratio of CCI Ltd. has been less than the standard norm of 1:1 during the study period except in the year 2005-06 indicating that CCI Ltd. was not using trading on equity during study period
7. Interest coverage ratio reveals ability of a company to pay its interest expenses from its earnings. ICR of CCI Ltd. has been in a fluctuating trend during the study period. ICR was exceptionally high in 2005-06 indicating higher other income in this year. It has been satisfactory during some years but it was very low during other years. Mean value of ICR (11.53 times) indicates adequate profit to bear the interest expenses
8. Proprietary ratio of CCI Ltd has been lower during the initial year of the study. It was 0.27 times in 2005-06 which increased during the subsequent years of the study and reached to 0.54 times in 2014-15. An average proprietary ratio of 0.50 times indicates that equity has been half of the total assets during the period of the study.
9. The gross profit of the company was satisfactory during most of the years of study period. It was 19.69 per cent in 2005-06. Further, it was highly accelerate during the subsequent years till 2009-10. However, in 2010-11, it

was declined by 10 per cent and stood at 36.35 per cent and remained stagnant during next three years. Finally, in 2014-15, the GPR of the company stood at 26.69 per cent.

10. The net profit was exceptionally high (426.08 per cent) in first year of the study i.e. 2005-06. In 2006-07, NPR was 58.61 percent. Further, net profit ratio declined during the subsequent years and stood at only 4.99 per cent in 2014-15.
11. Operating cost of the company was very high in 2005-06 (150.68 per cent) indicating high operating cost and negative operating profitability for this year. From 2006-07 to 2009-10, OR of CCI Ltd varies between 81.46 percent and 85.38 percent indicating high operating cost but positive operating profit for the company during these years.
12. CCI Ltd had very low return on capital employed during the study period. However, ROCE of the company was exceptionally high (63.44 per cent) in 2005-06. ROCE of the company fell drastically during study period and stood at 3.03 per cent in 2014-15 indicating low return on the capital employed in the company.
13. RONW and ROA were stood at 186.17 per cent and 50.07, respectively, in 2005-06. RONW and ROA fell to 20.67 and 12.40, respectively in 2006-07. Furthermore, RONW and ROA fell drastically during the subsequent years to become 4.96 and 2.86, respectively, in 2014-15, indicating poor performance of the company during study period.
14. The stock turnover ratio of CCI has been unsatisfactory during the whole study period. In 2005-06, it was 1.77 times which slightly decreased to become 1.55 times in 2006-07. In 2012-13, there was a decrease in stock turnover ratio to become 1.17 times. However, in 2014-15 it again increased and become 1.80 times.
15. Analysis revealed inefficiency of inventory management during the study period as management has not been able to efficiently convert the inventory into sale during the study period.
16. Debtors turnover ratio has been in mixed trend during study period. Debtor's turnover indicates that CCI Ltd had satisfactory turnover during the study period.

17. Working capital turnover ratio of the CCI has been negative during initial years of the study (-0.61 to 0.16 from 2005-06 to 2006-07, respectively) indicating condition of financial distress during these years. WCTOR of CCI Ltd was unsatisfactory during study period indicating inefficient working capital management during these years.

18. Total assets turnover ratio of the CCI Ltd. has been very low during the study period. It was only 0.12 times in 2005-06 which increased and reached to 0.27 times in 2014-15. Average TATR of 0.20 times indicates that management has not been able to use its assets to generate the sale during the period of study.

7.1.6 Findings based on comparison of financial ratios of CCI Ltd with the Industry Averages

1. In 2005-06 to 2007-08, CR of CCI was very low as compared to industry average. Average CR of CCI Ltd indicates better short term solvency than industry. However, CR of CCI Ltd has been in fluctuating trend which revealed inconsistent liquidity position of the company during the study period compared to industry average liquidity.

2. Similar to CR, the LR of CCI shows an increasing trend over the period of study whereas LR of industry average shows a declining trend over the study period. During the initial years of the study, LR of CCI has been lower as compared to industry average LR. Further, during the subsequent years i.e. from 2011-12 to 2014-15, the LR of CCI was higher than the industry average LR. Average LR of CCI Ltd was higher than the Industry average LR indicating better liquidity position of CCI Ltd during the study period.

3. ROA of CCI has been greater than industry average for the years 2005-06 while ROA of CCI Ltd has been lower than industry average for remaining the years under study. Industry Average ROA of CCI Ltd (8.92 per cent) was better than industry average ROA (7.66 per cent) during the period of the study.

4. RONW of CCI has been lower than the industry average ratio over the entire study period except for the year 2005-06 in which RONW of CCI was 186.17 per against the industry average ratio of 47.73 per cent in the same year. Further, RONW of both, CCI Ltd and industry average RONW, have been in decreasing trend during the study period. Average RONW of CCI Ltd. (23.87

per cent) was higher than the industry (21.93 per cent) indicating better profitability position of CCI Ltd. during study period.

5. The comparative analysis of return on capital employed of CCI Ltd. with its industry average has been presented in table 6.13. ROCE of CCI has been greater than industry average in 2005-06. However, for rest of the years under study, industry average ROCE has been greater than ROCE of CCI. Average ROCE of CCI Ltd (11.25 percent) was lower than the industry average ROCE during the period of the study.
6. DER of CCI Ltd. has been in a fluctuating trend over the study period while industry average DER shows constant trend during study period. In 2005-06, DER of CCI Ltd. (1.98 times) was higher than the industry average DER (1.28 times). Average DER of industry average shows better solvency position than CCI Ltd. during study period.
7. ICR of CCI has been greater than industry average for the years 2005-06 and 2013-14. For rest of the years under study, industry average ICR was greater than that of CCI. Average ICR of CCI Ltd (11.56 times) indicates better interest coverage and solvency position than the industry (5.2 times) during the study period.
8. Industry average TATR has been greater than that of CCI Ltd. during the period of study. The total assets turnover ratio of CCI Ltd. was very low during the study period as it was only 0.12 times in 2005-06 which increased in subsequent years and reached to 0.21 times in 2013-14. Industry average total assets turnover ratio ranged between 0.93 times in 2005-06 to 0.69 times in 2014-15. It Indicates that CCI Ltd. has been lesser efficient in generating sales with the help of its assets than the industry average efficiency.
9. Industry average WCTR has been greater than the CCI WCTR during the period of study. The working capital turnover ratio of the CCI has been very low and unsatisfactory during the study period. Negative WCTR of CCI Ltd in the initial two years of the study i.e. 2005-06 to 2006-07, indicates negative working capital and poor working capital management during these years. Average WCTR of CCI Ltd. (0.36 times) has been much lower than industry average WCTR indicating poor working capital management of CCI Ltd and

revealed the fact that the company has not been able to use its working capital to generate sale.

10. Sales Growth of CCI remained lower than the industry average ratio over the study period except in 2005-06 and 2013-14. Average SG of CCI Ltd. has been lower than the industry average during the study period.

7.1.7 Findings based on Du-Pont Analysis

1. The trend obtained through Du-Pont Analysis revealed that return on equity was very poor during the study period. However, in 2005-06, the return on equity was in double digit and more than 1 per cent (1.86 percent) due to adequate net profit margin.
2. On the basis of Du-Pont analysis, it is clearly visible that the company has not been able to fetch adequate profit during study period. Low leverage effect, low asset turnover and low sale volume gave very poor return on equity during the study period. The return on equity is the multiplication of net profit margin, asset turnover and equity multiplier.
3. Net profit margin of CCI Ltd was very low during the entire period of the study. It was 4.26 per cent in 2005-06 which declined during subsequent years and reached to 0.03 percent in 2012-13. Finally, in 2014-15, it increased and reached to 0.10 percent. In the case of Asset turnover of CCI Ltd, it was only 0.12 times in 2005-06 which also remains low throughout the study period and finally stood at 0.27 times in 2014-15.
4. Equity multiplier was comparatively in better condition as compared to net profit margin and asset turnover. It was 3.77 per cent in 2005-06 which declined during subsequent years and stood at 1.85 per cent in 2014-15.

7.1.8 Findings Based on Regression Analysis

1. In table 6.22, the coefficient of determination or R^2 (0.266) implies that 26.6 percent of the variance in ROCE is explained by Current Ratio. Table 6.23 shows the results of Regression Analysis determining the impact of liquidity ratios on return on capital employed. In case of Current Ratio the regression coefficient (beta) is equal to -5.624 which show the negative impact of CR on ROCE. Further, the value of significance is *(p = 0.127)* which is greater than the 0.05, therefore the impact of CR on ROCE is statistically insignificant.

2. In Table 6.22, the coefficient of determination or R^2 (0.406) implies that 40.6 per cent of the variance in ROCE is explained by liquid ratio. Table 6.23 shows the impact of LR on return of capital employed of CCI, it can be seen from simple regression analysis that the effect of LR on ROCE is statistically significant (p = 0.047). The regression coefficient (beta) is equal to -22.838 which shows negative impact of LR on ROCE.
3. In table 6.22, the coefficient of determination or R^2 (0.379) implies that 37.9 percent of the variance in ROCE is explained by CPR. The above table 6.23 shows the results of Regression Analysis used to validate the impact of CPR on return on capital employed. The result reveals that the Cash Position Ratio has negative impact on ROCE. Further, the value of significance is *(p = 0.034)* is less than 0.05. Therefore, the impact of CPR on ROCE is statistically significant.
4. Table 6.25 depicts regression coefficient of ROCE and solvency ratios of Cement Corporation of India. The coefficient of determination or R^2 (0.768) implies that 76.8 percent of the variance in ROCE is explained by DER. Table 6.26 indicates the impact of DER on return of capital employed of CCI. Further, the significance value of .001 ($p < 0.05$), indicating a significant impact of DER on ROCE. Therefore, the null hypothesis $\boldsymbol{H0_{2a}}$ is rejected.
5. Table 6.25 shows the correlation (r) between the interest coverage ratio and return on capital employed of CCI Ltd. The value of coefficient of correlation (.955) indicates a positively high relationship between the variables. The coefficient of determination or R^2 (0.912) implies that 91.2 per cent of the variance in ROCE is explained by ICR.
6. The value of beta coefficient in Table 6.26 (.818) signifies that for every one unit change in ICR, there is 0.818 units change in ROCE. Further, the significant value is 0.000, which is less than the critical value i.e. 0.05, which shows that there is no significant impact of ICR on Return on Capital Employed of CCI Ltd.
7. In table 6.25, the coefficient of determination (.940) indicates that 94.0 percent of the variance in ROCE is explained by PR. The result reveals that the proprietary ratio has a negative impact on ROCE. Further, the value of

significant is *(p = 0.000),* less than 0.05, therefore, the impact of PR on ROCE is statistically significant.

8. Table 6.29 shows the impact of stock turnover ratio on return of capital employed of CCI. It is observed that the significant value is 0.039 which is less than the critical value i.e. 0.05. Therefore, the impact of STOR on ROCE is statistically significant.

9. From table 6.29 it has been observed that the coefficient of determination (R^2) is at .565 which implies that 56.5 percent of the variance in ROCE is explained by the relationship between these variables. The results of Regression Analysis used to validate the impact of TATR on return on capital employed. The results reveals that the TATR has a negative impact on ROCE Further, the value of significant is *(p = 0.012)* less than 0.05. Therefore, the impact of TATR on ROCE is statistically significant.

10. Table 6.28 and 6.29 shows the coefficient of determination (R^2) is at .637, which implies that 63.7 per cent of the variance in ROCE is explained by WCTR. Table 6.30 shows the impact of WCTR on return on capital employed. The resultreveals that the WCTR has negative impact on ROCE.Further, the value of significant *(p = 0.006)* is less than 0.05, therefore, the impact of WCTR on ROCE is statistically significant.

11. Table 6.31 presents the regression analysis of profitability ratio (NP) and sales of CCI Ltd. The coefficient of determination (R^2) is at .590 which implies that 59.0 per cent of the variance in NP is explained by the relationship between these variables. From table 6.32 it has been observed that the value of sig (p = 0.009) is less than the critical value (0.05), therefore, the impact of sales on net profit ratio is statistically significant.

7.1.9 Findings based on Paired t-test (Impact of Financial Restructuring on Financial Performance of CCI Ltd.)

1. The table 6.33 shows result of paired t-test analysis of Current ratio of CCI before and after the financial restructuring. The t value of -2.998 with the significance value (two-tailed) of 0.017 implies that the variation in current ratio of CCI, before and after the financial restructuring, is highly consequential. Hence, there is significant impact of financial restructuring on current ratio of CCI.

2. The table 6.33 shows the t value of -2.478 with significance value (two-tailed) of 0.38, which is less than the critical value of 0.05. Hence, it may be concluded that there is significant impact of financial restructuring on GPR of CCI Ltd.
3. In table 6.33, the t value of -3.283 and significant value (two-tailed) of 0.011, indicates that the variation in return on capital employed of CCI before and after the financial restructuring is highly significant. Hence, it may be concluded that there is significant impact of financial restructuring on ROCE of CCI.
4. As can be seen in the table 6.33, the t value is 6.799 and significance value (two-tailed) or p value is 0.00. Hence, it may be concluded that there is significant difference impact of financial restructuring on DER of CCI.
5. As shown in table 6.33, the t value is and -5.137 significance value two (tailed) or p value is worked out as 0.01. Hence, it may be concluded that there is significant impact of financial restructuring on total asset turnover ratio of CCI.

7.1.10 Findings based on Result of one sample t-test (Comparison of financial ratios of CCI Ltd with the industry averages ratio)

1. Table 6.34 depicts the mean value of CR of CCI Limited (2.313) which is higher than the test value of 1.442. Table 5.25 shows the t value of 1.593 with significance value of 0.146. The higher value of significance (Sig. > 0.05) shows that 2.313 is not significantly different from 1.442. Therefore, observed mean of CR is not significantly different from the industry average.
2. Table 6.34, shows the mean value of ROCE (4.9100 per cent) which is lower than the test value of 17.751. The t value of -8.533 with significance value of 0.00(Sig. > 0.05) indicates that 4.9100 is significantly different from 17.751. Therefore, observed mean of ROCE is significantly different from the industry average.
3. Table 6.34, depicts the mean value of RONW is 5.249. The negative t value -9.407 implies that the mean of RONW is lower than the test value of 21.993. The *p*-value of .000 is lower than the level of significance 0.05. It indicates that the RONW of CCI is significantly different from the industry average.

4. Table 6.34, shows the mean value of DER of CCI Limited. The mean value of DER is 0.58 which is lower than the industry average. Table shows the t value of -4.317 with significance value of 0.002. The lower value of significance (Sig. < 0.05) indicates that 0.58 is significantly different from 0.912. Therefore, observed mean of DER is significantly different from the industry average.
5. Table 6.34 depicts the mean value of SG is 15.04. The negative t value (-727) implies that the mean of sales growth is lower than the industry average sales growth of 19.43 with the significance value of 0.486, which is higher than the level of significance 0.05. It clearly shows that the Sales Growth of CCI is not significantly different from the industry average.
6. Table 6.34 depicts the mean value of TATR is 0.196. The negative t value (-47.219) implies that the mean of TATR is lower than the test value of 0.76. The significance value of the test is .000, which is lower than the level of significance (Sig. < 0.05). It shows that the TATR of CCI Ltd. is significantly different from industry average.
7. Table 6.34, shows the mean value of WCTOR. The mean value of WCTOR is 0.359 which is lower than test value. Table shows the t value of -84.86 with significance value of 0.000. The lower value of significance (Sig. < 0.05) shows that 0.359 is significantly different from 14.01. Therefore, observed mean of WCTOR is significantly different from its industry average.

7.1.11 Findings based on Altman Z score analysis of CCI Limited

1. From the analysis, it is found that the Z-Score of CCI Ltd has been lower during the study period. It has been ranging from 1.76 to 0.99 during the entire study period, except in 2005-06 i.e. 1.76.
2. In 2005-06, Z score value for CCI was the highest of the study period of the company and fall in a Grey zone (safe zone). However, during the remaining years of the study period, the Z score values of CCI have been lower than 1.23 (bankruptcy zone). So, it can be concluded that the company is not in safe position, as the Z-Scores values for the company have fall in the bankruptcy zone (below1.23 score)
3. As can be seen from table 6.20, in the year 2014-15, Z-score of company shows a poor position, as the score was only 0.99, which is less than 1.23

(Danger Level) indicating the bankruptcy zone of the company and also predict financial distress for the company in next two years.

4. From the analysis, it is revealed that CCI Ltd. has been in condition of financial distress and fall in bankrupt zone during 2006-07 to 2014-15, the company is prone to bankruptcy in coming years.

7.2 CONCLUSION BASED ON FINDINGS OF THE STUDY

The present study is an analytical and fact-finding research that analyzed the importance and nature of financial performance of CCI in detail.The Indian cement industry contributes a considering share in the Gross Domestic Product (GDP) of the country. The future of the Indian Cement Industry is promising and its growth potentialsare high as there is sufficient domestic demand of cement and allied products. Meeting of the requirement of domestic consumption growth and demand impose a tough challenge for the Indian Cement Industry. In the early 1990s the Government of India initiated major trade policy reforms, which favored increasing privatization and liberalization of all sectors of the economy including the Indian cement industry. It will be beneficial to study and analyze the financial performance of CCI Ltd and to suggest measure to boost up production, trade thus, improve its profitability.

India is a second leading consumer of cement and allied products and also constitutes important percentage of its export. Proper policies and financial restructuring of CCI Ltd. is required because CCI Ltd. is an important player in this area and it is also on the most important Central Public Sector Enterprise (CPSE), which can be managed favorably for cement in particular and national policy goals in general. CCI Ltd is undergoing through its toughest face since inception and therefore there is an urgent need of a revival plan for a company in order to avoid creeped management and inefficiently turning the company towards the negative quadrants.

Cement industry is also one of the key sectors of Indian economy. There are a number of Indian companies which are involved in the business of cement at national and international level. ACC cement, Ultratech cement, Ambuja cement etc., are the main competitors of CCI Ltd. Many of the large and medium sized firms, which have underwent a restructuring process of financial restructuring, not only to survive in this intense competition but also emerged as successful global firms. The CCI Ltd.

unfortunately, was declared sick and brought under the Board for Industrial and Financial Reconstruction (BIFR) due to continuing losses and erosion of net worth, in 1996-97 and by BIFR the rehabilitation scheme of CCI Ltd. sanctioned in 2006-07.

The Researcher has evaluated the financial performance of CCI Ltd. by taking the financial statements of the company into consideration. The analysis and interpretation of Data has yielded a number of valuable findings, which can be used by the management of CCI Ltd. to take valuable decisions for the enhancement in the financial position of the company so that it can come out from the unhealthy zone.Moreover, these findings will be very useful to CCI Ltd for further consideration and investigation. To fight that situation we have pointed out that there is a need of fresh investment in current assets (i.e. working capital), and in fixed assets by the way of procuring and installing some advanced machines and technologies for improving production and productivity. It can also concluded that for improving a liquidity position of CCI Ltd. in the present situation the company may take few steps besides, trying for outside funds, like to increase in sales revenue, to speed up debtors' collection, to control some expenditures, to sale some assets (also recommended by BIFR), if any, which have become obsolete etc. and cost reduction to improve profitability.

From the analysis and interpretation of data it can be concluded that the financial position of the company is not quite satisfactory in terms of liquidity and solvency position.

With the help of analysis of liquidity ratios, it is found that the liquidity position of CCI Ltd has been poor during the study period. During initial years of the study, liquidity ratios of the company have been lower than the standard norms and their industry averages indicating condition of financial distress during these years. During initials years of study, CCI Ltd has not been able to meet its short term obligations. However, during the subsequent years, liquidity ratios of CCI Ltd were higher than the standard norms as well as their industry average indicating blockage of funds in current assets and liquid assets. The company was not using blocked fund in operations which might have increase the efficiency and profitability of the company during these years. Lower working capital during the study period as well as negative working capital in some years of the study indicates poor liquidity position of the company during the study period.

Long term solvency position of CCI Ltd was found unsatisfactory during the study period. Solvency position of CCI Ltd has significantly impactedprofitability of the company during study period. DER of the company was lower than the standard norm and its industry average during the study period revealing that the company was not trading on equity. However, interest coverage position of CCI Ltd has been better than its industry average over the study period indicating better interest coverage position during these years.

Researcher evaluated the profitability position of CCI Ltd. in two terms i.e. in terms of sales and in terms of investment. The profitability position of the company has been poor in terms of sales as well as in terms of investment. However, Profitability of the company was exceptionally high during 2005-06. Gross profit ratio of the company has been satisfactory during study period but net profit ratio and operatingprofit ratio of the company was much lower than the gross profit ratio indicating operating expenses of the company has been very high during the study period.

Efficiency ratios of the company have beenunsatisfactory during the study period indicating poor management efficiency of the company. Stock turnover ratio of the company indicates that the company has not been able to use its inventory to generate sales. Asset turnover ratioswere found very low revealing inefficiency of management of the company to utilize the assets of the company to generate sale. Vary low and negative working capital turnover ratios during study period shows insufficient working capital which has not been managed and utilized properly during study period. However, debtor's turnover ratio of the company has been good during study period.

From the findings of data analysis of financial restructuring of the CCI Ltd., it can be concluded that in a long run there has been a significant impact of financial restructuring on liquidity, profitability, solvency and efficiency position of the company which have made healthier improvement in the financial position of the company.

Altman Z score analysis has also revealedthat the financial health of CCI Ltd. Has not been satisfactory during the study period and average Altman Z score value predict sign of failure of the business in near future or in long run.

7.3 SUGGESTIONS

In Indian cement industry, it is liberalization, globalization and decontrol phase which plays a significant role in raising the cement sector of India. In the global market, this sector has proved its peculiarity. CCI Ltd. is considered as the only and most important public sector organization which is the greatest manufacturer and supplier of cement and allied products and that too at a competitive cost. Though performance of CCI Ltd. is not unsatisfactory in every spheres of its business anda necessary improvement is required in operating and financial performance of this company. Further improvement can be achieved with the help of successful implementation of following suggestions:

7.3.1 Suggestions for improving the Liquidity position of CCI Ltd.

1. Liquidity is the area which requires proper attention in case of CCI Ltd. Current ratio of the company has been lower than the industry norms during initial years of the study indicating condition of financial distress while it has been higher than the standard norm during subsequent years. Therefore, it is suggested that CCI Ltd should maintain its current ratio close to its standard norms so as to meet short term obligations.
2. Liquidity position of CCI Ltd. should be uniformly maintained as it is found to be frequently fluctuating.
3. The liquid assets of has been fluctuating during study period. Liquid ratio of CCI Ltd was below the industry average during the initial years. The company must maintain adequate amount of liquid assets in order to meet short-term commitments and emergency requirements.
4. Possible effort should be made to resolve their working capital crisis. The management should maintain a reasonable level of current assets and current liabilities to improve the overall liquidity position of the company.
5. The company can fetch an additional return on the idle cash by investing high cash reserves to some alternate avenues which were maintained by the company during the entire study period.

7.3.2 Suggestions for improving the Leverage/Solvency position of CCI Ltd.

1. The debt-equity ratio of CCI Ltd has been lower as compared to the standard norm and industry average during the study period. The Debt to equity position of the company has been unsatisfactory as this proportion is not

acceptable for a manufacturing company. It may be suggested that CCI Ltd should make use of more debt to trade on equity.

2. The Interest Coverage Ratio of the company has been satisfactory during most of the study period. Therefore, it is suggested that SAIL should make use of financial leverage by using long term debt fund.
3. CCI Ltd. can further improve its equity base by enhancing its reserves and fresh equity infusion, though proprietary ratio of CCI is very low during the study period but it restructured its net worth in 2006-07.

7.3.3 Suggestions for improving the management efficiency of CCI Ltd.

1. TATR of CCI Ltd has been much lower than the industry average during study period. CCI Ltd is suffering from under-utilization of its assets. It is due to shortage of working capital, shortage of raw material and other inputs etc. On the basis of findings related to *Asset management* of CCI Ltd, the management of the company is advised to detect the reasons and make possible effort to solve them as far as practicable.
2. Stock Turnover Ratio of CCI Ltd has been much lower over the period of study indicating that CCI Ltd has not been able to efficiently use inventory stock over the period of the study. On the basis of findings related to *Inventory management* of CCI Ltd, it is suggested that the level of inventory should be fixed up scientifically in order to avoid the problem of under-stocking and over-stocking.
3. Debtor's Turnover Ratio revealed that debt management efficiency of CCI Ltd has been satisfactory over the period of study. Therefore, it is suggested that management should further improve its receivable management, should further reduce the credit period and should strengthen the debt collection efforts.
4. It was found from the analysis that working capital turnover ratio of CCI was negative during last years of study, indicating a very low maintenance of working capital or negative working capital in the last years of the study. Therefore, on the basis of findings related to *working capital management* of CCI Ltd, it is suggested that management should maintain a reasonable level of current assets and current liabilities and should utilize its working capital efficiently to generate the sale.

7.3.4 Suggestions for improving the profitability of CCI Ltd.

1. Gross profit ratio of CCI Ltd has been satisfactory during the study period. In some years GPR decreased due to increase in cost of goods sold particularly increase in the prices of raw materials. Therefore, effective cost management is advised to improve profitability of CCI Ltd.
2. The Operating profit margin & net profit margin of CCI Ltd. have been much lesser than gross profit margin indicating higher operating cost. CCI Ltd. is suggested to reduce operating expenses to improve the profitability.
3. Study revealed that the operating expense ratio of CCI Ltd has been very high during the study period indicating lower operational efficiency and higher operational expenses over the period of study. It is advised that CCI Ltd. should reduce its operating expenses by focusing on cost management and improving operational efficiency.
4. The company should redesign its policy or schemes in order to improve its profitability and reduce cost through revenue enhancement and cost cutting measures

7.3.5 Other suggestions

1. Policy of disinvestment should be implemented by the company for increasing the stake of private players which will enhancethe managerial potential efficiency and as a result, its area of operation may widen.
2. The company must acquire the capital at low cost to get more positive impact profitability of the company.
3. The company should maintain its current liabilities because the proportion of current liabilities to current assets, quick assets and cash are favorable for the company's short term solvency position.
4. CCI Ltd. can improve its business by focusing on international markets.
5. Company should increase production and improve its production activities in order to fulfill the domestic requirements.
6. The CCI Ltd. can increase its trade volume by exploring and identifying new markets for its product both nationally and internationally.
7. It has been revealed by the analysis that the marketing and selling of cement and its allied products is the main concern of CCI Ltd. So, it needs to keep in

mind that the policies made by the Government should be favorable for the company itself.

8. The company should open its shops, showrooms in urban as well as rural areas of the country and should promote its trade activities related to cement and other allied products in rural areas.
9. In order to compete globally, the company should step up to other areas for marketing and sales in its current business.

7.4 DIRECTION FOR FUTURE RESEARCH

The present study was devoted to evaluation of financial performance of CCI Ltd. from 2005-06 to 2014-15. The Researcher feels that there is always a scope for further researches. For the purpose of study, the largest central public sector cement company of India was selected as a sample. This study is limited only for one Government Cement Company of India but there is still scope for further research in the evaluation of the performance of other public and private players of the same industry and also a comparative analysis of companies would be of great value for academicians and policy makers. It is felt that a research programme can be undertaken by adding some other cement companies to deliver deeper into the problem faced by this particular sector. The study may also be undertaken in the area of marketing, human resource, managerial efficiency etc. A full-fledged research programme may also be ventured in different aspects of CCI Ltd. which are currently supposed backbone of Indian Cement Industry. The researcher has covered key financial aspects of this corporation. However, there is a wide scope for further studies as well;

- There are a number of state owned corporations engaged in the business of cement and allied products. The researcher has taken up only one corporation for the study. So, the future researchers may evaluate the financial performance of similar companies like ACC, Birla, Ambuja, J.K Laxmi etc.
- Since only financial aspect of this corporation has been analyzed, many other aspects such as human resource management, marketing strategies, costing method, managerial decision, inventory management etc can also be studied in future.

- This study is of a limited period of ten years i.e. from 2005-06 to 2014-15. Still, financial performance can be evaluated in further periods of time. Thus, this field is always open for further researches.
- In this study, the impact of functional ratios were found on financial performance of CCI Ltd, further studies may be undertaken to find impact of firm specific variables and macroeconomic variables on financial performance of firms.
- Present study analyze financial performance of one public sector company in cement industry, further studies can be undertaken to compare financial performance of private and public sector enterprises in cement industry.

Books

Agrawal, N. K. (2003). *Management of working capital.* New Delhi, India: Sterling Publishers Private Limited.

Anthony, R. N. & Reece, J. S. (1975). *Management accounting principles* (3rd Ed.). Homewood, Illinois, USA: Richard D. Irwin Inc.

Banarjee, B. (2008). *Fundamentals of financial management*. New Delhi, India: PHI Learning Private Limited.

Batty J. (1975). *Management accountancy*. London: MacDonald and Evans Ltd.

C.L.I. (2009). *India Business Yearbook*. New Delhi: Vikas Publishing House Pvt Limited. Retrieved from https://books.google.co.in/books?id= JKrQOAKQX60C

Chandra, P. (2011). *Financial Management*. 8thed. New Delhi: McGraw-Hill Education Pvt Limited. Retrieved from https://books.google.co.in /books?id=hleyL7OKn4UC

Das, K. B. (1987). *Cement Industry of India,* New Delhi: Ashish Publishing. Retrieved from https://books House.google.co.in/books?id=zEwuXhKaU6oC

Debarshi, B. (2011). *Analysis and interpretation of financial statements.* Management accounting. India: Pearson Education.

Desai, V. (1999). *The Indian financial system.* Mumbai, India: Himalaya Publishing House Pvt. Ltd.

Foster, G. (1986). *Financial statement analysis.* Delhi, India: Prentice Hall Publication.

Francis, A. J. (1977). *The cement industry (1796-1914): A history.* North Pomfret, Vt: David & Charles, Newton Abbot. Retrieved from http://trove.nla.gov.au/version/13482420

Front, C. M., Christopher, J. M. & Fox, M. C. (2005). *The Lehigh Valley Cement Industry.* Great Britain: Arcadia Publishing. Retrieved from https://books.google. co.in/ books? id= Nn X33SJCy1QC

Gerald, I. W., Ashwinpaul, S. & Dov, F. (1998). *The analysis and use of financial statements*. India: John Wiley & Sons.

Groppelli, A. A. & Ehsan N. (2000). *Finance, 4th ed*. Illinois: Barron's Educational Series, Inc.

Gupta, S. K. & Sharma, R. K. (2005). *Management accounting: Principles and practice*. New Delhi, India: Kalyani Publishers.

Gupta, S. K. & Sharma, R. K. (2014). *Financial management: Theory and practice*. New Delhi, India: Kalyani Publishers.

Gupta, S. P. (2008). *Management accounting (15th Ed.).* Agra, India: Sahitya Bhawan Publication.

Hewlett, P. (2003). *Lea's Chemistry of Cement and Concrete.* Elsevier Science. Retrieved from https://books.google.co.in/books?id=v1JVu4iifnMC

ICL (2009). *India Business Yearbook.* New Delhi: Vikas Publishing House Pvt Limited. Retrieved from https://books.google.co.in/books?id= JKrQOAK QX6 0C

Jain, P. K., Gupta, S. & Yadav, S. S. (2014). *Public Sector Enterprises in India: The Impact of Disinvestment and Self Obligation on Financial Performance.* New Delhi: Springer. Retrieved from https://books.google.co.in/ books?id=7_O_AwAAQBAJ

Jain, T. R. & Khanna, O. P. (2010). *Development Problems and Policies*. New Delhi: Vimla Kumari Jain.

Jain, T. R., Tehran, M. & Tehran, R. (2009). *Growth and problems of major industries. Indian Economy*. New Delhi: Vimla Kumari Jain.

James, C. (1981). *Fundaments of Financial Management*. Canada: Prentice Hall.

Kalaiselvi, S. (2009). *Financial performance in software industry*. New Delhi, India: Discovery Publishing House Private Limited.

Kennedy, R. D. & McMullen, S. Y. (1999). *Financial statements: Form analysis and interpretation* (4th Ed.). Illinois: Richer D. Irwin Inc.

Khan, M. Y. & Jain P. K. (1999). *Financial Management.* New Delhi: Tata McGraw-Hill Publishing Company Ltd.

Khan, M. Y. & Jain, P. K. (2011). *Financial management: Text, problems and cases,* 6 Ed. New Delhi: McGraw-Hill Education Pvt Ltd.

Khan, M. Y. & Jain, P. K. (2011). *Financial Management: Text, Problems and Cases*, 6 Ed. New Delhi: McGraw-Hill Education Pvt Limited. Retrieved from https://books.google.co.in/books?id=8EVrcABaIloC

Kimuda, D. W. (1986). *A Textbook of Financial Accounting*, Heinemann 353, Retrieved from: https://books.google.co.in/books?id=T-DPARKZXOwC

Kulkarni, P. V. (1994). *Financial management: A conceptual approach*. Bombay, India: Himalaya Publishing House Pvt. Ltd.

Kumar, B.D. (1987) *Cement Industry of India*, APH Publishing, 8170240832, 9788170240839 pp 1 retrieved from http://books.google.co.in/books?id =zEwuXhKaU6oC&printsec= frontcove r&source=gbs_vpt_b uy&hl=en#v= on epage&q=indian%20economy&f=false

Low, S. P. & Tan, O. B. (1993). *The Global Cement Industry. Kent Ridge*, Singapore: Singapore University Press. Retrieved from https://books.google.co.in/ books?id= a8uOr 3i77FQC

Maheshwari, S. N. (2000). *Financial management.* New Delhi: Sultan Chand & Sons.

Mathur, B. L. (2001). *Towards economic development.* New Delhi: Discovery Publishing House Pvt Limited. Retrieved from http://books.google.co.in/ books?id=uFLXG9VgqXIC&printsec=frontcover & \source=gbs_ge_summ ary_r&cad=0#v=onepage&q&f= false

Meigs, W. B. (1978). *Intermediate Accounting*, New York: McGraw Hill, 1049.

Metcalf, R. W. & Litard, P. L. (1976). *Principles of accounting.* Hinsdale Illinois: The Dryden Press.

Mohana, R. P. (2011). *Financial statement analysis and reporting*, Financial statement analysis. New Delhi: PHI Learning.

Pandey, I. M. (1979). *Financial Management*, New Delhi: Vikas Publishing House Pvt. Ltd.

Pandey, I. M. (1995). *Financial Management.* New Delhi: Vikas Publishing House Pvt. Ltd.

Pandey, I. M. (2005). *Financial management* (9th Ed.). New Delhi, India: Vikas Publishing House Pvt. Ltd.

Pandey, I. M. (2009). *Financial management* (9th Ed.). New Delhi, India: Vikas Publishing House Pvt. Ltd.

Peterson, P. P. & Fabozzi, F. J. (1999). *Analysis of financial statements*. New Delhi: John Wiley & Sons.

Pillai, R. S. N. & Bhagvathi. (2008). *Management accounting*. New Delhi: S. Chand & Company Ltd.

Reynolds, S. & Madhavan (1968). *Basic Accounting for Managerial and Financial Control*. Holt: Rhine & Winston.

Roy, A. F. (n.d.). *Practical financial statement analysis*. International Student Edition McGraw Hill.

Sarngadharan, M. & Kumar, R. S. (2011). *Financial analysis for management decisions.* New Delhi: PHI Learning Pvt. Ltd. Retrieved from https:// books .google.co. in/books?id=j watY Q j O PrMC

Schumacher, K., & Sathaye, J. (1999). *India's cement industry: Productivity, energy efficiency and carbon emissions*. Lawrence Berkeley National Laboratory. Retrieved from http://india.lbl.gov/sites/default/files/41842.pdf

Sharma, R. K. & Gupta, S. K. (1995). *Management accounting: Principles and practice.* New Delhi: Kalyani Publishers.

Srivastava, R. M. (1979), *Financial Management - Principles and Problems.* Meerut: Pragati Prakashan.

Tulsian, P. C. (2010). *Tulsian's Financial Management* (1st Ed.). New Delhi, India: S. Chand & Company Ltd.

Journals

Akotey, J. O., Sackey, F. G., Amoah, L. & Manso, R. F. (2013). The financial performance of life insurance companies in Ghana. *The Journal of Risk Finance, 14*(3), 286-302. Retrieved from http://www.emeraldinsight.Com/ journals. Html?ar ticle id=17088852

Alfan, E. and Zakaria, Z. (2013). Review of Financial Performance and Distress: A Case of Malaysian Construction Companies. *British Journal of Arts and Social Sciences, 12*(II), 143-157. Retrieved from http://www.Bjournal.co.uk /paperBJASS _12_2/BJASS_12_2_01.pdf

Altman, E. I. (2014). *Distressed Firm and Bankruptcy prediction in an international context: a review and empirical analysis of Altman's Z-Score Model.* Retrieved from http://pages.stern.nyu.edu/~ealtman/PredFnclDistr.pdf

Altman, E. I. (2000). *Predicting financial distress of companies: Revisiting the z-score and zeta models*. Retrieved from: http://pages.stern.nyu.edu/~ ealtman/Zscores.pdf

Anjum, S. (2012). Business bankruptcy prediction models: A significant study of the Altman's Z score model. *Asian Journal of Management Research 3*(1), 212-219. Retrieved from http://www.ipublishing.co.in/ajmrvol1no1/ volthree/EIJMRS3018.pdf

Azhagaiah, R. & Gejalaksh, S. (2012), Financial Performance of Private Sector and Public Sector Banks in India: An Empirical Analysis. *International Center for Business Research, 1*(dec), 19-29. Retrieved from http://ic br.net/pub/full_pdf/icbr.net-0112.03.pdf

Bagchi, A. K. (2000). Private investment in India, 1900-1939. *Routledge, Taylor & Francis*, 5(2), 353-355. Retrieved from https:// books.google.co.in /books?id= UZZc TY zHBtgC

Bhanawat, S. S. (2010). An analysis of raw material cost in Indian manufacturing industry. *The IUP Journal of Accounting Research and Audit Practices, 9*(3), 65-80.

Bhunia, A. (2007). Liquidity Management of Public Management Iron and Steel Enterprises in India. *Vidyasagar University Journal of Commerce, 12*, 85-98. Retrieved from http://www.vidyasagar.ac.in/journal/Commerce/ vol12/8th%20Article.pdf

Bhunia, A. (2010). Financial performance of Indian Pharmaceutical Industry: A case study. *Asian Journal of Management Research*, *7*(3), 427-451.

Bhunia, A., Mukhuti, S., & Roy, G. (2011). Financial Performance Analysis-A Case Study. *Current Research Journal of Social Sciences*, *3*(3), 269-275. Retrieved from http://maxwellsci.com/print/crjss/v3-269-275.pdf

Borhan, H., Mohamed, R. N., & Azmi, N. (2014) The impact of financial ratios on the financial performance of a chemical company: The case of Lyondell Basell Industries. *World Journal of Entrepreneurship, Management and Sustainable Development, 10*(2), 154-160. Retrieved from http://www.emeraldinsight. com/journals.htm?articleid=17108998

Burange, L. G., & Yamini, S. (2008). Performance of the Indian Cement Industry: The Competitive Landscape. *Artha Vijnana, 51*(3), 7-8. Retrieved from http://www.mu.ac.in /arts/socialscience/eco/pdfs/depart/dwp1.pdf

Burja, C. (2011). Factorsinfluencing the Companies ' Profitability. *Annales Universitatis Apulensis Series Oeconomica*, *13*(2), 215–224. Retrieved from http://www.oeconomica.uab.ro/upload/lucrari/1320112/03.pdf

Capon, N., Farley, J. U., & Hoenig, S. (1990). Determinants of Financial Performance: A Meta Analysis. *Management Science, 36*(10), 1143–1159. Retrieved from http://www.jstor.org/stable/2632657

Chakraborty, K. (2008). Working Capital and Profitability: An Empirical Analysis of Their Relationship with Reference to Selected Companies in the Indian Pharmaceutical Industry. *The Icfaian Journal of Management Research*, 7(12), 41-58.

Chouhan, V. Chandra, B. Goswami, S. (2014). Predicting financial stability of select BSE companies revisiting Altman Z score, *International Letters of Social and Humanistic Sciences, 26,* 92-105 d oi:1 0.18 052/ Retrieved from www.scipress. com/ILSHS.26.92

De, A., Bandyopadhyay, G., & Chakraborty, B. N. (2011). Application of the Factor Analysis on the Financial Ratios and Validation of the Results by the Cluster Analysis: An Empirical Study on the Indian Cement Industry. *Journal of Business Studies Quarterly, 2*(3), 13–31. Retrieved from http://jbsq.org/wp-content/uploads/2011/06/June-2011-B.pdf

Desai, J. and Joshi, A. N. (2015). Financial Restructuring and Its Impact on Corporate Performance in Steel Industry in India. *International Journal of Management and Social Sciences Research 4*(11), 2319-4421.

Dhanabhakyam, M., & Kavitha, M. (2012). Financial performance of selected public sector banks in india. *International Journal of Multidisciplinary Research*, *2*(1), 255–269. Retrieved from http://zenithresearch.org.in/ images/stories/pdf/2012/Jan/ZIJMR/18MDHANABHAKYAMfinancial performance.pdf

Eljelly, A. M. A. (2004). Liquidity-Profitability Trade-off: An Empirical Investigation in an Emerging Market. *International Journal of Commerce and Management, 14,* (2), 48 – 61. Retrieved from http://dx .doi.org/10.1108/10569210480000179

Franklin, L. L., & Uma, K. (2013). Impactof Marginal Costingand Leveragesfor Cement Industries. *International Journal of Advanced Research in Management and Social Sciences*, *2*(4), 58–67. Retrieved from http:// www.garph.co.uk/IJARMSS/Apr2013/6.pdf

Goswami, S., & Sarkar, A. (2011). Analysis of financial performance of Tata Steel: A case study. *Zenith International Journal of Multidisciplinary Research,1*(5), 161-174. Retrieved from http://www.zenithresearch.org.in/

images/stories/pdf/2011/Sep/11.Vol_01_Issue_05%20Suvarun%20Goswami%20%20Full%20Article.pdf

Hayes, S. K., Hodge, K. A. & Hughes, L. W. (2010). A Study of the efficacy of Altman's Z to predict bankruptcy of specialty retail firms doing business in contemporary times. *Economics & Business Journal: Inquiries & Perspectives (3)*1. Retrieved from: http://ecedweb.Unomaha.edu/EBJI%202010Hayes hodgeHughes.pdf

Hofmann, E., & Lampe, K. (2013). Financial statement analysis of logistics service providers: ways of enhancing performance. *International Journal of Physical Distribution & Logistics Management*, *43*(4), 321–342. doi:10.1108/IJPDLM-08-2012-0229

Hossain, Z., Hossain, A., Kumar, D., Hasan, S. M., & Islam, F. (2012). Financial Performance Analysis of NCBSin Bangladesh : A Case study on Janata Bank Limited. *Bangladesh Research Publications Journal*, *7*(4), 428–436. Retrieved from http://www.bdresearchpublications.com/ad min/journal/upload/09365/ 09365.pdf

Huang, S. M., Tsai, C. F., Yen, D. C., & Cheng, Y. L. (2008). A hybrid financial analysis model for business failure prediction. *Expert Systems with Applications*, *35*(3), 1034–1040. doi:10.1016/j.eswa.2007.08.040

Jani, R. R. (2012) A Study on Financial Position of Bhel Ltd through Modern Tool Eva - An Empirical Study. *International Journal of Scientific Research, 1*(5), 98-99. Retrieved from http:// the global journals.Com/ ijsr/file.php?val=October_2012_1349179164_07f3d_33.pdf

Joshi, A. (2013). A Study of Profitability Analysis of Selected FMCG Companies in India. *Indian Journal of Applied Research*, *3*(6), 368–370. Retrieved from http://www.theglobaljournals.com/ijar/file.php?val=June_2013_1370077625_ 665 4a_122.pdf

Kantawala, A. S. (2001). Financial performance of non banking finance companies in India. *The Indian Economic Journal, 49*(1), 86-92. Retrieved from http://unpan1.un.org/intradoc/groups/public/documents/apcity/unpan019759.pdf

Kaplinsky, R. (1997). India's industrial development: an interpretative survey. *World development,25*(5), 681-694.

Katchova, A. L., & Enlow, S. J. (2013). Financial performance of publicly-traded agribusinesses. *Agricultural Finance Review*, *73*(1), 58–73. doi: 10.1108/00021461311321311

Kaur, S., & Singh, F. (2013). Impact of Liberalization on cost of capital-A case study of Associated Cement Companies Limited. *International Journal of Multidisciplinary Research*, *3*(7). Retrieved from http://zenithresearch.org.in/images/stories/pdf/2013/JULY/ZIJMR/1_ZIJMR_VOL3_ISSUE7_JULY2013.pdf

Khuba, S.C. (2013). Industrial development of Maharashtra. *Indian Streams Research Journal, 3*(1). Retrieved from: www.isrj.net

Kumar, P. K., John, S. F., & Senith, S. (2013). A Study on the Progress of Indian Cement Industry. *British Journal of Marketing Studies, 1*(1), 1–15. Retrieved from http://www.eajournals.org/wp-content/uploads/A-STU DY-ON-THE-PROGRESS-OF-INDIAN.pdf

Kumar, P. K., John, S. F., & Senith, S. (2013). A Study on the Progress of Indian Cement Industry. *British Journal of Marketing Studies, 1*(1), 1–15. Retrieved from http://www.eajournals.org/wp-content/uploads/a-study-on-the-progress-of-indian.pdf

Kumar, S. &. Bansal N. C. (2013). Marketing Mix Strategies and Indian Cement Sector. *International Journal of Emerging Research in Management &Technology*, *8*(1), 115-136.

Mahmoudi, S. (2014). The Effect of Leverage on Cement Industry Profitability. *Reef Resources Assessment and Management Technical Paper*, *40*(1), 673–676. Retrieved from http://behaviorsciences.com/wrramt/wp-content/uploads/2014/03/76-Mahmoudi.pdf

Majumder, M. T. H. & Rahman, M. M. (2011). Financial analysis of Selected Pharmaceutical companies in Bangladesh. *European Journal of Business and Management, 3*(2), 146-164. Retrieved from http://www. Isste.org/Journals/index.php/EJBM/article/view/170

Makkar, A. & Singh, S. (2013). Analysis of the Financial Performance of Indian Commercial Banks: A Comparative Study. *Indian Journal of Finance*, *7*(5). Retrieved from http://indianjournaloffinance.co.in/pdf Abstract/May2013/Paper5.pdf

Mukhopadhyaya, J. N., Roy, M., & Raychaudhuri, A. (2012). An Analytical Study of the Chnaging Structure in the Cement Industry of India. *Indore Management Journal, 4*(1), 11–23. Retrieved from http://www. iimidr.ac.in/iimi/images/ IMJ/Volume4_Issue1/An Analytical Study of the Changing.pdf

Murthy, J. (2013). Shareholders' Value Creation in IT Sector in India - A comparative study between TCS & Infosys. *Indian Journal Of Applied Research, 3*(11) 299-301, Retrieved from http:// www. worldwidejournals.com/ijar/file.php?val =November_2013_1383916029_5838e_97.pdf

Müslümov, A. (2005). The financial and operating performance of privatized companies in the Turkish cement industry. *Metu Studies in Development, 32* (August 2002), 59–101. Retrieved from http://www. Muslumov.com/wp-content/uploads/2012/07/ PRIVATIZ ATION-METU-Studies-in-Development-2005.pdf

Nanavati, N. K. (2013). Dupont Analysis to Measure Return On Equity Of Satyam Computer Services Ltd (Now Known As Mahindra Satyam Ltd), *Indian journal of research, 2*(3),38-40. Retreived from http: //www. Worldwidejourn als.com/paripex/file .php?val=March_2013_1363609321_829fa_14.pdf

Nandi, K. C (2012), Trends in Liquidity Management and their Impact on Profitability- A Case Study, *Great Lakes Herald , 6*,(1), 16-30. Retrieved from http://www.greatlakes.edu.in/pdf/Herald/Vol6/mar 2012v6_c2.pdf

Nedunchezhian, V. R., & Premalatha, K. (2013). Analysis And Impact Of Financial Performance of Commercial Banks After Mergers In India. *International Journal of Marketing, Financial Services & Management Research*, *2*(3), 150–162. Retrieved from http://indianresearchjournals. Com/pdf/IJMFSMR /2013/ March/ 14.pdf

Panigrahi, A. K. (2013). Liquidity Management of Indian Cement Companies – A Comparative Study. *IOSR Journal of Business and Management*, *14*(5), 49–61. doi:10.9790/487X-1454961

Panigrahi, A. K. (2013). Relationship between Inventory Management and Profitability□: An Empirical analysis of Indian Cement Companies. *Asia Pacific Journal of Marketing & Management Review*, *2*(7), 107–120. Retrieved from http://indianresearchjournals.com/pdf/APJMMR/ 2013/July/11.pdf

Parsons, J. E. (2006). *The equity risk premium and the cost of capital*. Center for Energy and Environment Policy Research (CEEPR) Workshop, Cambridge, MA. Retrieved from http://www.mit.edu/~jparsons/Presentations/ CEEPR%2006% 20Spring%20CoC%20Parsons.pdf

Patel, R. K. (2013). Profitability analysis of indian scheduled commercial banks. *International Journal of Multidisciplinary Research, 3*(9). Retrieved from http://zenithresearch.org.in/images/stories/pdf/2013/SEP/ZIJMR /12_ZIJMR_VOL3_ISSUE9_SEPTEMBER2013.pdf

Patil, M. R. & Sawant, P. (2014). Corporate social responsibility, performance and sustainability reporting of Shree cement company in India: A case study, *Abhinav International Monthly Refereed Journal of Research in Management &Technology, 3(*4) ISSN-2320-0073, Retrieved from http://abhinavjournal.com/journal/index.php/ISSN-2320-0073/article/view/210

Pradhan, R. (2014). Z Score Estimation for Indian Banking Sector. *International Journal of Trade, Economics and Finance, 5*(6), 516-520. Retrieved from http://www.ijtef.org/papers/425-M21025.pdf

Rahaman, S. M., Sur. D. (2014). Profitability of Selected Co.s in Textile Industry: An Emprical Assessment. *The Management Accountant, 49*(2),63-74.

Rahman, M. M. (2011). Working Capital Management and Profitability: A Study on Textiles Industry, *ASA University Review, 5*(1), 115-132. Retrieved from http://www.asaub.edu.bd/data/asaubreview/v5n1sl7.pdf

Rajeswari, (2000). Liquidity Management of Tamil Nadu Cement Corporation Ltd, Alangulam- A Case Study, *The Management Accountant, II*, (2), 377-378.

Rakshit, D. (2006). Eva based Performance Measurement : A Case Study. *Vidyasagar University Journal of Commerce, 11*(March), 40–59. Retrieved from http://vidyasagar.ac.in/journal/Commerce/4 EVA based Performance Measurement.pdf

Ramesh, M. P. (2015).DuPont Analysis of Axis Bank, *Asian Journal Of Management Research, 5*(4), 566-569.Retreived from http://www.ipublishing.co.in/ajmrvol1n o 1/ volfive/EIJMRS5233.pdf

Ramesh, M. P. (2015).The Use of DuPont Analysis by Market Participants, *The Accounting Review, 83*(3), 823-853. Retreived from http://faculty.haas.berkeley. edu/kli/papers/So liman-2008TAR.p df

Ray, S. (2013). Investigating Capital Structure Determinants in Listed Cement Companies of India. *Financial and Quantitative Analysis, 1*(3), 47–58. doi:10.12966/fqa.09.02.2013

Rehman, S. S. F. U. (2013). "Relationship between Financial Leverage and FinancialPerformance: Empirical Evidence of Listed Sugar Companiesof Pakistan." *Global Journal of Management and Business Reserach Finance, 13*(8), 33–40. Retrieved from http://journalof business.org/index.php/ GJMBR/article/viewFile/1081/992

Saleem, Q., & Rehman, R. U. (2011). Impacts of liquidity ratios on profitability (Case of oil and gas companies of Pakistan). *Interdisciplinary Journal of Research in Business, 1*(7), 95–98. Retrieved from http://www. Idjrb .com/articlepdf/idjrb7n9.pdf

Samuel, J. J. J. (2012). A Study on Financial Performance of the India Cements Limitedi in Sankar Nagar at Tirunalveli District. *International Jounal of Research in IT, Management and Engineering, 2*, 23–46. Retrieved from http://gjmr.org/IJRIME/vol2issue5/3.pdf

Sandhar, S. K., & Janglani, S. (2013). A Study on Liquidity and Profitability of Selected Indian Cement Companies: A Regression Modeling Approach. *International Journal of Economics, Commerce and Management, I*(1), 1–24. Retrieved from http://ijecm.co.uk/wp-content /uploads/2014/01/115.pdf

Sangmi, M. D., & Nazir, T. (2010). Analyzing Financial Performance of Commercial Banks in India: Application of CAMEL Model. *Pakistan Journal of Commerce and Social Sciences, 4*(1), 40–55. Retrieved from http://www.jespk.net/publications/28.pdf

Selvam, M., (2004). A study on financial health of Cement Industry- 'Z' score analysis. *The management Accountant, 3*,(7), 591-593.

Shah, S. Q.& Jan, R. (2014). Analysis of Financial Performance of Private Banks in Pakistan. *Procedia - Social and Behavioral Sciences, 109*, 1021–1025. doi:10.1016/j.sbspro.2013.12.583

Sharma, L. M., & Tiwari, S. (2014). Resource Constraints: A Major Impediment for Infrastructure Growth. *International Journal of Advanced Technology in Engineering and Science, 4*(2), 199–205. Retrieved from http://www.ijates.com/images/short_pdf/ 1403531661_P199-205.pdf

Sharma, S. (2008). Analyzing the technical and scale efficiency performance: a case study of cement firms in India. *Journal of Advances in Management Research, 5*(II), 56-63. doi:10.1108/09727980810949133

Sheela, S. C & Karthikeyan, K.(2012). Financial Performance of Pharmaceutical Industry in India using DuPont Analysis, *European Journal of Business and Management 4*(4),84-91.Retreived from http://pakacademicsearch.com/pdf-files/ech/517/84-91%20Vol%204,%20No%2014%20(2012).pdf

Sheela, S. C & Karthikeyan, K. (2012).Financial Performance of Pharmaceutical Industry in India using DuPont Analysis, *European Journal of Business and Management 4*(4), 84-91.Retreived from http://pakacademicsearch.com/pdf-files/ech/517/84-91% 20Vol% 204,%20 No%2014%20(2012).pdf

Singh, A. B., & Tandon, M. S. P. (2012). A Study of Financial Performance: A Comparative analysis of SBI and ICICI Bank. *International Journal of Marketing, Financial Services & Management Research*, *1*(11), 56–71. Retrieved from www.indianresearchjournals.com http://indianresearch journals.com/pdf/IJMFSMR/2012/November/5.pdf

Singh, P. K. (2003). Financial appraisal of IDBI Bank Ltd through financial indicators. *The Management Accountant*, 425-433.

Soliman, T. M. (2008). Use of DuPont Analysis by Market Participants. *The Accounting Review 83*(3). 823–853. Retrieved from http://faculty.haas.berkeley.edu/kli/papers/Soliman-2008TAR.pdf

Srinivasan, R., & Sundari, C. U. T. (2011). Dimension of Financial Performance of Cement Units in South India-An Emphirical Sudy(Z Score Analysis). *International Jounal of Research in Commerce & Management*, *2*(7), 64–68. Retrieved from http://ijrcm.org.in/download.php?name=ijrcm-1-vol-2_issue-7-art 12.pdf&path=uploaddata/ijrcm-1-vol-2_issue-7-art-12.pdf

Sriya, A. K. & Krishna, M. P, (2014). Status of Provisions of the Factories Act, 1948 - A study at Penna Cement Industries Limited (PCIL), Tadipatri. *IOSR Journal of Business and Management 16*(3), 14-26. Retrieved from http://iosrjournals.org/iosr-jbm/papers/Vol16-issue3/Version-1/C016311426.pdf

Suseela, P. & Maruthamuthu, K. (2014). Scenario of Indian cement sector. *Indian Streams Research Journal,4(*5) Retrieved from http://www.isrj.net/UploadedData/4765.pdf

Swaminathan, R., Rajesh, N., & Jasim, K. M. (2013). Working Capital Management of Selected Cement Companies in India. *International Journal of Mangement and Development Studies*, *2*(2), 17–26.

Taqi, M. (2014). Financial appraisal of Indian trading companies: A comparative study of State Trading Corporation of India Ltd. & Minerals and Metals Trading Corporation of India Ltd. *The Macrotheme Review: A Multidisciplinary Journal of Global Macro Trends, 3*(3),Spring, 99-116. Retrieved from http://macrotheme.com/yahoo_site _admin/assets /docs/9MR 31CMo.1361354.pdf

Tehrani, R., Mehragan, M. R., & Golkani, M. R. (2012). A Model for Evaluating Financial Performance of Companies by Data Envelopment Analysis - A Case Study of 36 Corporations Affiliated with a Private Organization. *International Business Research*, *5*(8), 8–16. doi:10.55 39/ibr.v5n8p8

Teodor, H. & Maria, A. T.(2014). The Profit and Loss Account and the DuPont Analysis Study Models of Performance in Companies Listed on BSE. *Wseas Transactions on Business and Economics 11*. Retreived from http://wwwseas.org/multim edia/journals/economics/2014/a065707-288.pdf

Tiwari, S. (2013). A Study on Working Capital Management Efficiency In Indian Cement Industry. *4D International Journal of Management and Science*, *4*(1), 191–197.

Varma, B. P. & Sirisha, K. (2013). Study of processing and machinery in cement industry. *International Journal of Engineering and Innovative Technology*, *3*(5), 385-392. Retrieved from http://ijeit.com/Vol%203/Issue%205/IJEIT141 2201311_64.pdf

Venkataramana, N., Azash, S., & Ramakrishnaiah, K. (2012). Financial performance and Predicting the risk of Bankruptcy: A Case of Selected Cement Companies in India. *International Journal of Public Administration and Management Research*, *1*(1), 40–56. Retrieved from http://rcmss.com/1ijpamr/financial performance and predicting the risk of bankruptcy_ a case of selected cement companies in india.pdf

Vijayanathimala, P., & Vijayakumar, A. (2014). liquidity , risk and profitability trade off - an empirical investigation in indian cement industry.*International Journal of Multidisciplinary Research, 4*(6), 116–133. Retrieved from http://zenithresearch. org.in/images /stories /pdf/2014/JUNE/ZIJMR/ 12_ZIJMR_ VOL4_ ISSUE6_J UNE2014.pdf

Conference Proceedings

Herciu, M., Ogrean, C., & Belascu, L. (2011). *A Du Pont analysis of the 20 most profitable companies in the World*. International Conference on Business and Economics Research, Kuala Lumpur, Malaysia. Retrieved from http://www.ipedr.com/vol1/10-B00015.pdf

Kannadhasan, M., & Dunstan, R. A. (2007). *Risk evaluation of financial performance in manufacturing industry: A case study in banker's perspective*. National Conference on Strategic Management: Opportunities and Challenges in the post LPG Era. PRIMS, Periyar University, Tamil Nadu, India.

Mangiero, S. M. (2004). *DuPont model and forecasting growth methodologies.* American Society of Appraisers 23rd Annual Advanced Business Valuation Conference. Retrieved from http://www.meritriskyonetimi.com/wp-content/uploads/2012/03/Du pont-Model-and-Forecasting-Growth-for-corporate-valuation-Oct-2004 .pdf

Mathur, R. & Mathur, B. L. (2010). *Performance evaluation of central public enterprises in global perspective: A case study of India.* International Conference on Applied Economics: ICOAE 2010. Retrieved from http://kastoria.teikoz.gr/icoae2/wordpress/wp-content/uploads/articles/ 2011/10/056.pdf

Mehta, P. S. (2002, Feb. 7-8). *The Indian mining sector: Effects on the environment and FDI inflows.* CCNM Global Forum on International Investment, Conference on Foreign Direct Investment and the Environment, Lessons to be learned from the Mining Sector, OECD Headquarter, Paris, France.

Ramanandham, V. V. (1997). *The basic purpose of a performance contract.* Paper presented at International Conference on Performance Contracting, New Delhi.

Ningsih, W., & Djuaeriah, N. (2013). The Capital Structure And Firm ' s Financial Leverage In Indonesian Publicly Listed Cement Industry. In *Proceedings of*

World Business and Social Science Research Conference (pp. 1–14). Retrieved from http://www.wbiworldconpro.com/uploads/bangkok-conference -2013-october/fina nce/1382556355 _ 318-Neneng.pdf

Osman Z. (2009, Mar. 23-25). *The financial performance of privatized enterprises in Sudan (1990-2002): An Empirical Study*. International Conference on 'The Role of the Private Sector in Development: Assessment and Prospects, Beirut, Lebanon.

Rogers, M. (2008). *Corporate governance and financial performance of selected commercial banks in Uganda*. CRRC 2008, Call for Papers. Queens University, Belfast, Ireland. Retrieved from http://www.crrconference.org.

Zoysa, A. De. (2009). Profitability analysis of listed manufacturing companies in Sri Lanka and Malaysia: An empirical investigation. In *4th Asian academy of applied business conference* (pp. 34–43). Makati City. Retrieved from http://ro.uow.edu.au/ comm papers/1155

Thesis

Chandarana, H. M. (2008). *Performance evaluation of Life Insurance Corporation of India.* Ph.D. Thesis. Saurashtra University, Gujarat, India. 141. Retrieved from http://etheses.saurashtrauniversity.edu/43/1/chandarana_hm_thesis_ com.pdf

Das, S. (2010). Analysis and interpretation of financial statements: Case studies. Ph.D. Thesis. Department of Mining Engineering, National Institute of Technology, Rourkela India.

Falk R. (2005). Industrial Sickness in Indian Manufacturing Industry. (Doctoral thesis). Department of Economics, University Heidelberg.

Jhala, U. (2007). An analytical study of financial performance of refinery industry of India. Ph.D. Thesis. Saurashtra University, Gujarat, India. Retrieved from http://etheses.saurashtrauniversity.edu/50/1/jhala_u_ thesis_ com.pdf.

Morten. R. A. (2011). *Applying Altman's Z-Score to the Financial Crisis. An Empirical Study of Financial Distress on Oslo Stock Exchange*, Doctoral Thesis, Norwegian School of Economics Bergen, 14-45 Retrieved from https://brage.bibsys.no/ xmlui// bit stream/handle/11250/169347/Aasen%20 2011.pdf?sequence=1

Parikh, H. M. (2012*). Financial restructuring and its impact on corporate performance in India*. (Doctoral Thesis), Gujarat University, Gujrat.

Patel, A. M. (2004). *A performance appraisal of dairy industry in Gujarat*. Ph.D. Thesis, Saurashtra University, Gujarat, India. 75-77. Retrieved from http://etheses.Saurashtr auniversity.edu/57/1/patel_am_thesis_com.pdf

Tharumar, P. (2010). *Evolution of industries in Tirunelveli district (1947-1997)*. Doctoral Thesis, Department of History Manonmaniam Sundaranar University, Tirunelveli. 21-39. Retrieved from http://shodhganga.inflibnet .ac.in/bitstream/10603/670/8/08_chapter%201.Pdf

Reports/Periodicals

ASSOCHAM (n.d.). *Public sector enterprises transformation, competitiveness & sustainability*. Retrieved from: http://www.kpmg.com/IN/en/Issues AndInsights/ThoughtLeadership/Public-Sector-Enterprises.pdf)

Cembureau, (2014). *Activity report.* Rretrieved from http://www.cembureau. eu/sites/default/files/Activity%20Report%202014_ website_1.pdf

Department of heavy industry, (23rd Feb, 2011). *Standing Committee Report*, The revival and restructuring of Cement Corporation of India limited.

Department of Public Enterprises. (2014). *Annual Report 2013-14*. Retrieved from: http://dpe.nic.in/sites/upload_files/dpe/files/Annual_Report_Final_2013-14.pdf

DIPP, (2014). *Fact sheet on foreign direct investment (FDI)*. Retrieved from http://dipp.nic.in/English/Publications/FDI_Statistics /2014/ india_FDI_April 2014. pdf

Edwards, P. (2013). The incredible Indian cement industry, *Global Cement Magazine*, Retrieved from: http://www.globalcement.com/magazine/articles/752-the-incredible-indian-cement-industry

Global cement magazine. (2013) *Alternativefuels: providing growth and sustainability*. Retevied from http://www.Globalcement.com/pdf/eggFeb1 3ns.pdf

Government of India. (2011). Parliament of India Rajya Sabha, Department Related Parliamentary Standing Committee on Commerce, Ninety Fifth Report On Performance of Cement Industry.

Government of India. (2013). the working group on cement industry of India for 12 five year plan 2012-2017) Ministry of Commerce and Industry.

Indian Cement Review. (2012). *Emerging trends & challenges in Indian cement industry*. Indian Cement Review- Magazine. Retrieved from http://www.indiancementreview. com/News.aspx?nId=3Eu6Z0tx/25lzM6ruCDnjg==&NewsType=Emerging-trends-challenges-in-Indian-cement-industry-India-Sector

Ministry Of Mines, Government of India. (2011). *Indian Minerals Yearbook,* (50th Ed.) Cement (Advance Release).

Published Annual Reports of Cement corporation of India limited from 2005-06 to 2014-15

Siddeshwara, G. M. (2013). Cement Plants. *Report on Ministry Of Commerce And Industry Department Of Industrial Policy And Promotion*. Retrieved from http://dipp.nic.in/ English/questions/09122013/lu484.pdf

United Nations Statistics Division (2013). *GDP and its breakdown at current prices in US Dollars*, United Nations. Retrieved from http://unstats.un.org/unsd/ snaama/ dnlList .asp

United Nations Statistics Division. (2013). *GDP and its breakdown at constant 2005 prices in US Dollars.* United Nations. Retrieved from http://unstats.un.org/unsd/snaama/ dnlList.asp

W.T.O (2013). World Trade Report 2013, Geneva. Retrieved from http://www.wto.org/english/res_e/booksp_e/world_trade_report13_e.pdf

World Business Council for Sustainable Development (2002), *The cement sustainability initiative: our agenda for action*, WBCSD, Geneva, Switzerland.

World Business Council for Sustainable Development (2005), *The cement sustainability initiative: CO2 accounting and reporting standard for the cement industry*. WBCSD, Geneva, Switzerland.

World Trade Organization (2014). *Modest trade growth anticipated for 2014 and 2015 following two year slump*. World Trade Organization Press Release retrieved from http://www.wto.org/english/news_e/ pres14_e/pr 721_e.htm

Newspapers

Business Line

The Business Standard

The Economics Times

The Financial Express

Websites

http:// www.cmaindia.org

http:// www.globalcement.com

http:// www.worldcement.com

http://articles.economictimes.indiatimes.com

http://dpe.nic.in

http://en.wikipedia.org

http://indiabudget.nic.in

http://www.aaii.com

http://www.acclimited.com

http://www.accountingformanagement.org

http://www.ambujacement.com

http://www.bizfinance.co.in

http://www.capitalemployedformula.com

http://www.cementcorporation.co.in

http://www.commerce.nic.in/

http://www.finance formulas.net

http://www.ibef.org

http://www.indiacements.co.in

http://www.investopedia.com

http://www.investorwords.com

http://www.jalindia.com

http://www.law.uchicago.edu

http://www.livemint.com/Politics

http://www.myaccountingcourse.com

http://www.statisticssolutions.com

http://www.ultratechcement.com

https://en.wikipedia.org

Table 1a: Production of Cement Industry of India

Year	Production
2005-06	1,40,512.00
2006-07	1,54,746.00
2007-08	1,67,580.00
2008-09	1,81,400.00
2009-10	2,00,651.00
2010-11	2,09,660.00
2011-12	2,23,500.00
2012-13	2,40,614.00
2013-14	2,49,830.00
2014-15	2,60,980.00

Source: *Industry Outlook, CMIE Database*

Table 1b: Consumption of Cement in India

Year	Consumption
2005-06	1,34,894.70
2006-07	1,50,141.60
2007-08	1,64,779.40
2008-09	1,79,165.60
2009-10	2,00,073.50
2010-11	2,07,260.80
2011-12	2,21,112.50
2012-13	2,38,977.10
2013-14	2,45,903.50
2014-15	2,60,980.00

Source: *Industry Outlook, CMIE Database*

Table 1c: Import of Cement by India

Year	Import
2005-06	20.80
2006-07	211.80
2007-08	621.50
2008-09	1025.80
2009-10	2112.00
2010-11	1095.60
2011-12	1011.10
2012-13	1282.20
2013-14	677.80
2014-15	1,100.00

Source: *Industry Outlook, CMIE Database*

Table 1d: Export of Cement by India

Year	Export
2005-06	5,638.10
2006-07	4,816.20
2007-08	3,422.10
2008-09	3,260.30
2009-10	2,689.50
2010-11	3,494.90
2011-12	3,398.50
2012-13	2,919.10
2013-14	5,140.80
2014-15	6,287.60

Source: *Industry Outlook, CMIE Database*

Table 2a: Current Ratio of CCI Limited

Year	Current Asset	Current Liabilities
2005-06	19898	35513
2006-07	29141	37305
2007-08	37285	38116
2008-09	41762	37404
2009-10	49033	36058
2010-11	39269	33137
2011-12	40589	10622
2012-13	38678	8205
2013-14	36409	9032
2014-15	37594	8208

Source: *Annual Reports of CCI Ltd. from 2005-06 to 2014-15.*

Table 2b: Liquid Ratio of CCI Limited

Year	Liquid Asset	Current Liabilities
2005-06	11035	35513
2006-07	18960	37305
2007-08	27073	38116
2008-09	30421	37404
2009-10	36681	36058
2010-11	26266	33137
2011-12	24623	10622
2012-13	22442	8205
2013-14	21521	9032
2014-15	23979	8208

Source: *Annual Reports of CCI Ltd. from 2005-06 to 2014-15.*

Table – 2 c: Cash Position Ratio of CCI Limited

Year	Cash	Current Liabilities
2005-06	7003	35513
2006-07	14198	37305
2007-08	22229	38116
2008-09	25780	37404
2009-10	32098	36058
2010-11	20315	33137
2011-12	19041	10622
2012-13	17672	8205
2013-14	16768	9032
2014-15	19649	8208

Source: *Annual Reports of CCI Ltd. from 2005-06 to 2014-15.*

Table – 2d: Gross Profit Ratio of CCI Limited

Year	GP	Sales
2005-06	3845	19523
2006-07	13689	28424
2007-08	13884	29228
2008-09	15316	31948
2009-10	15089	33008
2010-11	10978	30203
2011-12	12898	33467
2012-13	9941	28735
2013-14	8661	32452
2014-15	13239	40410

Source: *Annual Reports of CCI Ltd. from 2005-06 to 2014-15.*

Table – 2e: Operating Ratio of CCI Limited

Year	Operating Cost	Sales
2005-06	29417	19523
2006-07	23464	28424
2007-08	23809	29228
2008-09	27278	31948
2009-10	27355	33008
2010-11	29704	30203
2011-12	34489	33467
2012-13	31371	28735
2013-14	38211	32452
2014-15	41833	40410

Source: *Annual Reports of CCI Ltd. from 2005-06 to 2014-15.*

Table – 2f: Net Profit Ratio of CCI Limited

Year	Net Profit	Sales
2005-06	83184	19523
2006-07	16660	28424
2007-08	4089	29228
2008-09	5254	31948
2009-10	5274	33008
2010-11	2712	30203
2011-12	1943	33467
2012-13	811	28735
2013-14	1620	32452
2014-15	4008	40410

Source: *Annual Reports of CCI Ltd. from 2005-06 to 2014-15.*

Table – 2g: Return on Capital Employed of CCI Limited

Year	EBIT	Capital Employed
2005-06	84359	132968
2006-07	19806	122380
2007-08	7590	125660
2008-09	9028	125224
2009-10	9027	128017
2010-11	6396	118313
2011-12	2854	143593
2012-13	1257	147307
2013-14	1915	143260
2014-15	4305	142297

Source: *Annual Reports of CCI Ltd. from 2005-06 to 2014-15.*

Table – 2h: Return on Shareholder's Fund of CCI Limited

Year	Profit After Tax	Shareholder's Fund
2005-06	83184	44682
2006-07	16661	80609
2007-08	4089	81141
2008-09	5255	81141
2009-10	5275	81141
2010-11	2713	81141
2011-12	1943	76965
2012-13	811	81141
2013-14	1620	81141
2014-15	4008	81141

Source: *Annual Reports of CCI Ltd. from 2005-06 to 2014-15.*

Table – 2i: Total Asset Turnover Ratio of CCI Limited

Year	Total Assets	Sales
2005-06	168481	19523
2006-07	159685	28424
2007-08	163776	29228
2008-09	162628	31948
2009-10	164075	33008
2010-11	151450	30203
2011-12	154215	33467
2012-13	155512	28735
2013-14	152292	32452
2014-15	150505	40410

Source: *Annual Reports of CCI Ltd. from 2005-06 to 2014-15.*

Table – 2j: Return on Total Assets of CCI Limited

Year	EBIT	Total Assets
2005-06	84359	168481
2006-07	19806	159685
2007-08	7590	163776
2008-09	9028	162628
2009-10	9027	164075
2010-11	6396	151450
2011-12	2854	154215
2012-13	1257	155512
2013-14	1915	152292
2014-15	4305	150505

Source: *Annual Reports of CCI Ltd. from 2005-06 to 2014-15.*

Table – 2k: Debt Equity Ratio of CCI Limited

Year	LTD	SHF
2005-06	88287	44682
2006-07	41772	80609
2007-08	44518	81141
2008-09	44082	81141
2009-10	46875	81141
2010-11	37171	81141
2011-12	62453	76965
2012-13	66166	81141
2013-14	62119	81141
2014-15	61156	81141

Source: *Annual Reports of CCI Ltd. from 2005-06 to 2014-15.*

Table – 2l: Interest Coverage Ratio of CCI Limited

Year	EBIT	Interest
2005-06	84359	1152
2006-07	19806	3110
2007-08	7590	3465
2008-09	9028	3738
2009-10	9027	3752
2010-11	6396	3683
2011-12	2854	911
2012-13	1257	446
2013-14	1915	295
2014-15	4305	297

Source: *Annual Reports of CCI Ltd. from 2005-06 to 2014-15.*

Table 2m: Proprietary Ratio of CCI Limited

Year	SHF	Total Assets
2005-06	44682	168481
2006-07	80609	159685
2007-08	81141	163776
2008-09	81141	162628
2009-10	81141	164075
2010-11	81141	151450
2011-12	76965	154215
2012-13	81141	155512
2013-14	81141	152292
2014-15	81141	150505

Source: *Annual Reports of CCI Ltd. from 2005-06 to 2014-15.*

Table – 2n: Stock Turnover Ratio of CCI Limited

Year	COGS	AVG. STOCK
2005-06	15677	8823
2006-07	14736	9522
2007-08	15344	10197
2008-09	16631	10776.5
2009-10	17919	11846.5
2010-11	19225	12677.5
2011-12	20569	14484.5
2012-13	18794	16101
2013-14	23791	15562
2014-15	27171	14251.2

Source: *Annual Reports of CCI Ltd. from 2005-06 to 2014-15.*

Table – 2o: Debtors Turnover Ratio of CCI Limited

Year	SALES	DEBTORS
2005-06	19523	1467
2006-07	28424	1723
2007-08	29228	1012
2008-09	31948	1181
2009-10	33008	886
2010-11	30203	1777
2011-12	33467	2186
2012-13	28735	1667
2013-14	32452	1059
2014-15	40410	761

Source: *Annual Reports of CCI Ltd. from 2005-06 to 2014-15.*

Table – 2p: Working Capital Turnover Ratio of CCI Limited

Year	SALES	WORKING CP
2005-06	19523	-15615
2006-07	28424	-8164
2007-08	29228	-831
2008-09	31948	4358
2009-10	33008	12975
2010-11	30203	6132
2011-12	33467	29967
2012-13	28735	30473
2013-14	32452	27377
2014-15	40410	29386

Source: *Annual Reports of CCI Ltd. from 2005-06 to 2014-15*.

Table 3a: Net Profit Margin

Year	Net Profit	Sales	Net Profit Margin
2005-06	83184	19523	4.26
2006-07	16661	28424	0.59
2007-08	4089	29228	0.14
2008-09	5255	31948	0.16
2009-10	5275	33008	0.16
2010-11	2713	30203	0.09
2011-12	1943	33467	0.06
2012-13	811	28735	0.03
2013-14	1620	32452	0.05
2014-15	4008	40410	0.10

Source: *Annual reports of CCI Ltd. from 2005-06 to 2014-15*

Table 3b: Asset Turnover

Year	Sales	Total Assets	Asset Turnover
2005-06	19523	168481	0.12
2006-07	28424	159685	0.18
2007-08	29228	163776	0.18
2008-09	31948	162628	0.20
2009-10	33008	164075	0.20
2010-11	30203	151450	0.20
2011-12	33467	154215	0.22
2012-13	28735	155512	0.18
2013-14	32452	152292	0.21
2014-15	40410	105505	0.27

Source: *Annual reports of CCI Ltd. from 2005-06 to 2014-15*

Table 3c: Equity Multiplier

Year	Total Asset	Shareholder's Fund	Equity Multiplier
2005-06	168481	44682	3.77
2006-07	159685	80609	1.98
2007-08	163776	81141	2.02
2008-09	162628	81141	2.00
2009-10	164075	81141	2.02
2010-11	151450	81141	1.87
2011-12	154215	76965	2.00
2012-13	155512	81141	1.92
2013-14	152292	81141	1.88
2014-15	150505	81141	1.85

Source: *Annual reports of CCI Ltd. from 2005-06 to 2014-15*

Calculation of Altman Z Scores of CCI Ltd.

Table 4a: X1

Year	Working Capital	Total Asset	X1
2005-06	-15615	168481	-0.09
2006-07	-8164	159685	-0.05
2007-08	-831	163776	-0.01
2008-09	4358	162628	0.03
2009-10	12975	164075	0.08
2010-11	6132	151450	0.04
2011-12	29967	154215	0.19
2012-13	30473	155512	0.20
2013-14	27377	152292	0.18
2014-15	29386	150505	0.20

Source: *Annual reports of CCI Ltd. from 2005-06 to 2014-15*

Table 4b: X2

Year	Retained Earnings	Total Assets	X2
2005-06	0.00	168481	0.00
2006-07	0.00	159685	0.00
2007-08	0.00	163776	0.00
2008-09	0.00	162628	0.00
2009-10	0.00	164075	0.00
2010-11	0.00	151450	0.00
2011-12	0.00	154215	0.00
2012-13	0.00	155512	0.00
2013-14	0.00	152292	0.00
2014-15	0.00	150505	0.00

Source: *Annual reports of CCI Ltd. from 2005-06 to 2014-15*

Table – 4c: X3

Year	EBIT	Total Assets	X3
2005-06	84359	168481	0.5007
2006-07	19806	159685	0.1240
2007-08	7590	163776	0.0463
2008-09	9028	162628	0.0555
2009-10	9027	164075	0.0550
2010-11	6396	151450	0.0422
2011-12	2854	154215	0.0185
2012-13	1257	155512	0.0081
2013-14	1915	152292	0.0126
2014-15	4305	150505	0.0286

Source: *Annual reports of CCI Ltd. from 2005-06 to 2014-15*

Table – 4e: X4

Year	Book value of Equity	Total Liabilities	X4
2005-06	44682	123799	0.36
2006-07	80609	79076	1.02
2007-08	81141	82635	0.98
2008-09	81141	81487	1.00
2009-10	81141	82934	0.98
2010-11	81141	70309	1.15
2011-12	76965	77250	1.00
2012-13	81141	74371	1.09
2013-14	81141	71151	1.14
2014-15	81141	69364	1.17

Source: *Annual reports of CCI Ltd. from 2005-06 to 2014-15*

Table – 4f: X5

Year	Net Sales	Total Assets	X5
2005-06	19523	168481	0.12
2006-07	28424	159685	0.18
2007-08	29228	163776	0.18
2008-09	31948	162628	0.20
2009-10	33008	164075	0.20
2010-11	30203	151450	0.20
2011-12	33467	154215	0.22
2012-13	28735	155512	0.18
2013-14	32452	152292	0.21
2014-15	40410	150505	0.27

Source: *Annual reports of CCI Ltd. from 2005-06 to 2014-15*

Table 5a: Current Ratios of CCI Ltd.

Before Financial Restructuring				After Financial Restructuring			
Year	Current assets	Current liability	CR	Year	Current assets	Current liability	CR
1997-98	32906	25764	1.28	2006-07	29141	37305	0.78
1998-99	23814	28318	0.84	2007-08	37285	38116	0.98
1999-20	16818	30703	0.55	2008-09	41762	37404	1.12
200-01	20880	36634	0.57	2009-10	49033	36058	1.36
2001-02	17183	35806	0.48	2010-11	39269	33137	1.19
2002-03	17799	37605	0.47	2011-12	40589	10622	3.82
2003-04	16015	37683	0.42	2012-13	38678	8205	4.71
2004-05	15192	34946	0.43	2013-14	36409	9032	4.03
2005-06	19898	35513	0.56	2014-15	37594	8208	4.58

Source: *Annual reports of CCI Ltd. from 1997-98 to 2014-15*

Table 5b: Gross Profit Ratios of CCI Ltd.

Before Financial Restructuring				After Financial Restructuring			
Year	Gross Profit	Net Sales	GPR	Year	Gross Profit	Net Sales	GPR
1997-98	938	23247	4.03	2006-07	13689	28424	48.16
1998-99	568	20970	2.71	2007-08	13884	29228	47.50
1999-20	316	13487	2.34	2008-09	15316	31948	47.94
2000-01	-1499	7199	-20.82	2009-10	15089	33008	45.71
2001-02	696	13702	5.08	2010-11	10978	30203	36.35
2002-03	1657	12069	13.73	2011-12	12898	33467	38.54
2003-04	9411	13132	71.66	2012-13	9941	28735	34.60
2004-05	4368	14944	29.23	2013-14	8661	32452	26.69
2005-06	3845	19523	19.69	2014-15	13239	40410	32.76

Source: *Annual reports of CCI Ltd. from 1997-98 to 2014-15*

Table 5c: ROCE of CCI Ltd.

Before Financial Restructuring				After Financial Restructuring			
Year	EBIT	CE	ROCE	Year	EBIT	CE	ROCE
1997-98	10059	86761	11.59	2006-07	19806	122380	16.18
1998-99	-7654	121657	-6.29	2007-08	7590	125660	6.04
1999-20	-9430	132296	-7.13	2008-09	9028	125224	7.21
200-01	-10135	151901	-6.67	2009-10	9027	128017	7.05
2001-02	-5898	170682	-3.46	2010-11	6396	118313	5.41
2002-03	-4324	191673	-2.26	2011-12	2854	143593	1.99
2003-04	-2435	196395	-1.24	2012-13	1257	147307	0.85
2004-05	-3221	217140	-1.48	2013-14	1915	143260	1.34
2005-06	84359	132968	63.44	2014-15	4305	142297	3.03

Source: *Annual reports of CCI Ltd. from 1997-98 to 2014-15*

Table 5d: Debt Equity Ratio

Before Financial Restructuring				After Financial Restructuring			
Year	**LTD**	**SHF**	**DER**	**Year**	**LTD**	**SHF**	**DER**
1997-98	44910	41851	1.07	2006-07	41772	80609	0.52
1998-99	79807	41850	1.91	2007-08	44518	81141	0.55
1999-20	90233	42063	2.15	2008-09	44082	81141	0.54
200-01	109253	42648	2.56	2009-10	46875	81141	0.58
2001-02	127847	42835	2.98	2010-11	37171	81141	0.46
2002-03	148845	42828	3.48	2011-12	62453	76965	0.81
2003-04	153467	42928	3.57	2012-13	66166	81141	0.82
2004-05	174213	42928	4.06	2013-14	62119	81141	0.77
2005-06	88287	44682	1.98	2014-15	61156	81141	0.75

Source: *Annual reports of CCI Ltd. from 1997-98 to 2014-15*

Table 5e: Total Asset Turnover Ratio of CCI Ltd.

Before Financial Restructuring				After Financial Restructuring			
Year	**Sales**	**Total Asset**	**TATR**	**Year**	**Sales**	**Total Asset**	**TATR**
1997-98	23247	112525	0.21	2006-07	28424	159685	0.18
1998-99	20970	149975	0.14	2007-08	29228	163776	0.18
1999-20	13487	162999	0.08	2008-09	31948	162628	0.20
200-01	7199	188535	0.04	2009-10	33008	164075	0.20
2001-02	13702	206488	0.07	2010-11	30203	151450	0.20
2002-03	12069	229278	0.05	2011-12	33467	154215	0.22
2003-04	13132	234377	0.06	2012-13	28735	155512	0.18
2004-05	14944	252086	0.06	2013-14	32452	152292	0.21
2005-06	19523	168481	0.12	2014-15	40410	150505	0.27

Source: *Annual reports of CCI Ltd. from 1997-98 to 2014-15*

EVALUATION OF FINANCIAL PERFORMANCE OF CEMENT CORPORATION OF INDIA (CCI) LIMITED

Mohd. Ajmal
Research Scholar, Department of Commerce,
Aligarh Muslim University, Aligarh

Abstract

Cement Industry play very significant role in Indian economy. It facilitates the basic infrastructure facility for the development of the country. Indian Cement industry is the second largest industry throughout the Globe only after China. The present study is an attempt to evaluate the financial performance of Cement Industry of India with special reference to Cement Corporation of India limited (CCI). The financial performance will have been evaluated through the financial ratios. Liquidity position of the company will be checked through short term solvency ratios while earning performance have been evaluated with the help of profitability ratios. Other financial and statistical tools and techniques have also been applied in order to check the overall financial position of the company.

Keywords: Financial Performance, Cement, Corporation.

Introduction

The role of manufacturing sector is very decisive for a developing nation. India is fast emerging country on the world map as a strong economy and global power. The country is going through a phase of rapid development and growth. Cement is one of the essential industry which plays a vital role in the growth and development of a nation.The Indian cement industry is the second largest industry in the world after China accounting for about 8 per cent of the total global production (Cement Sector Analysis Report April 2014). The indigenous Indian cement industry traces its history back to 1914, at a time when the market was dominated by imports.The First cement factory in India named South India Limited was established in 1879 in Madras (now Chennai). It began production in 1904, but the factory was not a success. During this period, three new factories came into being. First successful factory was set up in 1914 by Tata at Porbander in Gujarat. It was known as Indian Cement Company Ltd. Second factory, was set up in Rajasthan and third In Madhya Pradesh. By the end of World War I (1918), India was producing 85,000 tonnes cement. (Jain & Khanna 2010). According to the latest report from the working group on the industry for the 12^{th} Five –year plan 2012-17, India would require overall cement capacity of around 480Mt/yr. This would mean that the Industry would have to add another 150Mt/yr. of capacity during the same period

The production of cement has increased at a compound annual growth rate (CAGR) of 9.7 per cent to reach 272 million tonnes (MT) during FY 06–13.The production capacity is expected to grow to 550 MT by FY 20 (Sharma & Tiwari, 2014). The country is expected to become the world's third largest construction market by 2025, adding 11.5 million homes a year to become a US$ 1 trillion a year market, according to a study by Global Construction Perspectives and Oxford Economics. "Lafarge's India business has been very successful and the country is among the top 10 markets globally for Lafarge. India is among the best cement markets in Asia, according to Switzerland-based cement major Holcim. The company operates in India through group companies ACC and Ambuja Cements. (Krishna, 2014) .According to data released by the Department of Industrial Policy and Promotion (DIPP), cement and gypsum products attracted foreign direct investment (FDI) worth Rs 13,370.32 crore (US$ 2.24 billion) between April 2000 and February 2014.(ibefapril 2014). . Currently the top players of private and public sectors namely Ultratech cement, ACC Ambuja Cements, Jaiprakash Associates, India Cements and Shree Cement, Cement Corporation of India Ltd. (CCI) collectively control more than half of the cement market in the country. There are 40 players in the industry across the country as reported by the business standard. (Global cement magazine February 2013)CCI Ltd. is one of the leading public sector cement manufacturing company of India. Basically, it is involved in the manufacturing and selling of cement products and covers Domestic markets. Being a Public Sector cement company of India it is essential to evaluate the financial performance of CCI Ltd.

Financial performance refers to the degree to which financial objectives being or has been accomplished (Corvellec, H.1997). The financial performance is an important factor which indicates the growth of any industry. The financial performance of cement industry is influenced by several factors like cost, revenue and resultant profits margin and it can be studied with the help of many aspects, namely, financial facts etc .The best indicators of the financial performance are return on assets, sales, equity, profit, liquidity and other variables. Financial performance analysis gives an outcome regarding workings and performance of a company during a specific period. It relates to the earning capacity and utilization of available resources. The analysis will therefore, confine to the evaluation of the firm's financial position .In this context, evaluation has been done focusing of financial aspects of the company with the help of its financial statements, since CCI Ltd. is a leading cement manufacturing Government Company of India.

The profitability of the business depends on the cost incurred on the production. If the cost increases on one hand and meanwhile the profit of business decreases, the business may go to the liquidation stage. Furthermore, the future development programme of the company can be designed according to the expenses and investment level. Therefore, the analysis of the profitability of the CCI gets importance in the present day context. For measuring the financial performance of CCI, profitability, liquidity and sales measures are to be considered. The basic aim of this study is to analyze the financial performance of CCI Ltd. since, it is wholly Public Sector Company; its performance should be good enough to contribute in the economic development of the country. So, the purpose of the Researcher behind this Study is to analyse the performance of CCI Ltd. in order to evaluate how much, it is contributing in enhancing the efficiency of the economy. The present paper is divided into five sections. The first section gives the background of CCI and second part related with review of previous studies and research gap. The third section consists design of the study including objectives, hypotheses and methodology.

The fourth part of the study related to analysis and interpretation. The last section of the study gives the concluding remarks.

Overview of Cement Corporation of India (CCI) Limited

Cement Corporation of India Limited (CCI) was incorporated as a Company wholly owned by Government of India on 18th January 1965 with the principal objective of achieving self-sufficiency in cement production. The authorized and paid-up capital of the company as on 31.3.2012 was Rs. 900 crores and Rs. 811.41 crores (including Rs.41.75 crores for share application money pending allotment) respectively. CCI is a multi-unit organization at present having ten units spread over eight states with a total annual installed capacity of 38.48 lakh MT. All Factories, Zonal Offices and Corporate Office at Delhi are inter connected through Internet. In line with the advancement in cement technology CCI had been adopting the latest one with one million tons plants at Tandur and Nayagaon. CCI manufactures various types of cements like Portland Pozzolana Cement (PPC), Portland Slag Cement (PSC) & Ordinary Portland Cement (OPC) of varying grades viz 33, 43,53 and 53S(special grade cement for manufacture of sleepers for Indian Railways) grades under strict quality control with the brand name of CCI Cement. CCI with a strong work-force of 907 employees (as on 31.03.2012) has always encouraged balanced regional growth with most of its factories located in underdeveloped/backward areas. CCI has also been contributing to the development of areas around factories by adopting nearby villages and providing the basic facilities like school, health center, drinking water etc. For maintaining the ecological balance CCI is launching massive tree plantation drives from time to time at all units and in surrounding areas. CCI manufactures various types of cements like ordinary Portland Cement (OPC) & Pozzolana Portland Cement (PPC) of different grades such as Portland pozzolana cement (PPC), Portland slag cement (PSC), and ordinary Portland cement (OPC) viz 33, 43 ,53 grades under strict quality control with the brand name of CCI Cement. The units are spread throughout the country from East (Bokajan in Assam) to West (Akaltara, Mandhar in Chhattisgarh and Nayagaon in Madhya Pradesh) and from North (Rajban in Himachal Pradesh and Charkhi Dadri in Haryana) to South (Kurkunta in Karnataka and Adilabad, Tandur in Andhra Pradesh), with one cement grinding unit in Delhi. (CCI Profile)

Review of Literature

Panigrahi (2013) examined the liquidity position of five leading Indian cement companies for the period of 10 years viz, 2000-2001 to 2009-2010.he used ratio analysis, and Motaal's ultimate rank test to analyse the data and found that the liquidity position of small companies are better as compared to big ones and most interestingly the growth rate of current ratio, quick ratio and working capital to current assets of all the companies are negative which indicates an unsound liquidity position. Kaur and Silky (2013) analyzed the working capital management in terms of profitability and liquidity through the regression analysis to find out the impact of liquidity on profitability, Correlation analysis was used to find out the relationship between liquidity with profitability and revealed that the profitability and liquidity are inversely related or that there must always be a trade-off between profitability and liquidity. Samuel (2012) analyzed the financial performance of the company on various fronts of profitability, liquidity and turnover and concluded that the overall performance of the India Cements Ltd. is good.Wen-Cheng LIN et. Al (2005) applied the financial ratios to determine a firm's liquidity, profitability, solvency,

capital structure and assets turnover they found that the financial position was good. In the article The Assessment of Financial and Operating Performance of the Cement Industry: A Case Study of Confidence Cement Limited, Dutta and Bhattacharjee (2001) found that the investment in cement was fairly profitable. Salauddin (2001) examined the profitability of the Pharmaceutical Companies of Bangladesh. By using ratio analysis, mean, standard deviation and co-efficient of variation he found that the profitability of the Pharmaceuticals sector was very satisfactory in terms of the standard norms of return on investment. Sina et al (1998) analyzed financial ratios to test the financial strengths and weaknesses of Khulna Newsprint Mills Ltd. He found that due to lack of planning and control of working capital, operational inefficiency, obsolete store, ineffective credit policy, increased cost of raw materials, labor and overhead, the position of the company was not good. Hye & Rahman (1997) conducted a research to assess the performance of the selected private sector general insurance companies in Bangladesh. The study revealed that the private sector insurance companies had made substantial progress. The study found that the insurance companies were keeping their surplus funds in the form of fixed deposits with different commercial banks due to absence of suitable avenues for investment. These studies attest that the ratio analysis and MDA are the good method to evaluate firm performance. The researcher uses these tools to measure the financial performance of 9 selected Pharmaceutical firms in this paper. Saleh et al (1996) used Altman's MDA model to check the bankruptcy position of Chittagong Steel Mills Ltd. The author found that absences of realistic goals, strict govt. regulation are the main reasons for the lowest level of bankruptcy. Saleh et al (1995) employed the financial ratios to measure operational performance of limited company. They used profitability, liquidity, activity and capital structure to measure operational performance. Ohlson (1980) employed financial ratios to predict a firm's crisis. He found that there are four factors affecting a firm's vulnerability. These factors are the firm's scale, financial structure, performance and liquidity. Hannan et al (1979) used financial ratios to show the financial position and performance analysis of Bangladesh Shilpa Bank. He showed that techniques of financial analysis can be used in the evaluation of financial position and performance of financial institution as well as non financial institutions even Development Financial Institutions (DFI). Altman (1968) used financial ratios to predict corporate bankruptcy. He found that the bankruptcy model has an accuracy rate of 93 per cent and is very successful in predicting failed and non-failed firms.

Objectives of the Study

The objectives of the present study are as follows:

- To evaluate the financial performance of Cement Industry of india.
- To measure the liquidity position of Cement Corporation of India.
- To analyze the profitability position of CCI

Hypotheses of the Study

In the light of objectives the hypotheses of the study are as follows:

H_1: there is no significant impact of sales on liquidity position of CCI.

H_2: there is no significant impact of sales on profitability position of CCI.

H_3: there is no significant impact of sales on solvency position of CCI.

Research Methodology

Sample of the Study

The present study is purely based on the evaluation of financial performance of Cement Corporation of India (CCI).

Nature of Data

The data used for the present study is secondary in nature.

Sources of Data

The secondary data has been taken from the published annual reports of Cement Corporation of India (CCI) as well as the official website of CCI.

Tenure of the Study

The data for the study is taken for five years i.e. 2008-09 to 2012-13.

Tools used for the Study

In order to evaluate the financial performance of Cement Corporation of India, a number of financial and statistical tools have been applied. Financial tools include liquidity, profitability and solvency ratios have been applied.

Data Analysis and Interpretation

On the basis of secondary data which have been taken from the published annual reports of Cement Corporation of India (CCI) Limited, the results of the present study are presented here as under:

Table – 1 Accounting Ratios of Cement Corporation of India (CCI)

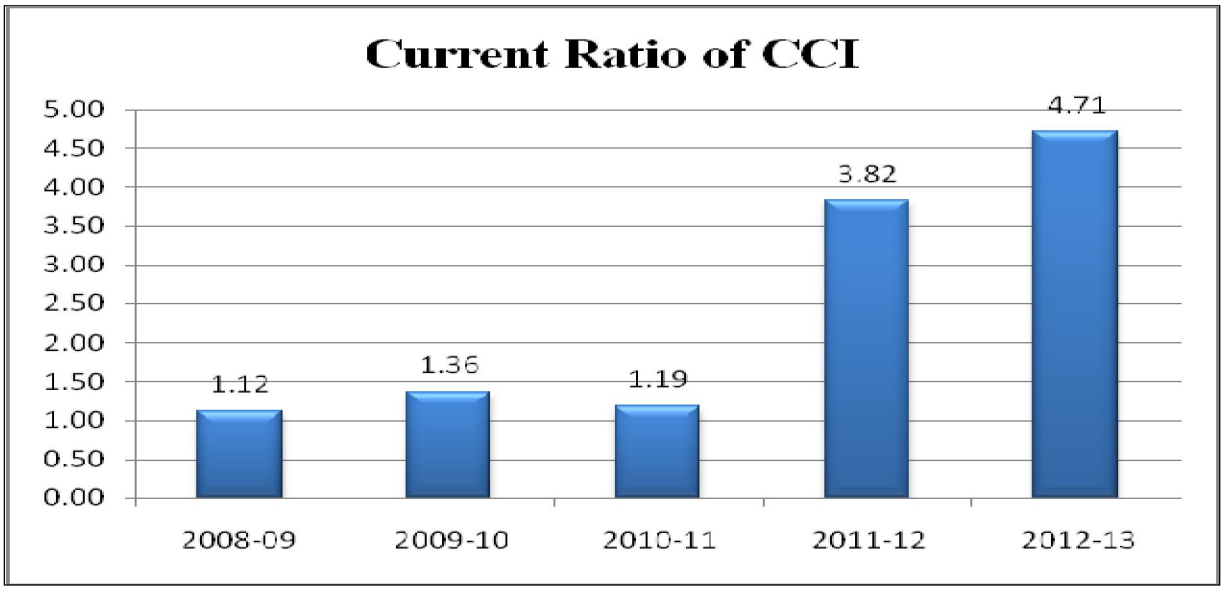
Year	CR	LR	NPR	DER	ICR
2008-09	1.12	0.81	14.29	-1.77	1.41
2009-10	1.36	1.02	14.30	-2.38	1.41
2010-11	1.19	0.79	7.50	0.52	0.74
2011-12	3.82	2.32	5.22	-3.25	2.13
2012-13	4.71	2.74	2.48	-4.65	1.82

Source: Published Annual Reports of Cement Corporation of India (CCI) from 2008-09 to 2012-13.

CR = Current Ratio
LR = Liquid Ratio
NPR = Net Profit Ratio
DER = Debt Equity Ratio
ICR = Interest Coverage Ratio

Table 1 presents the description of financial ratios of Cement Corporation of India (CCI) Limited from 2008-09 to 2012-13. Liquidity position was seemingly not good in initial years of the study as it was below to the standard. Liquidity position increased very high in consecutive years as it was 3.82 times and 4.71 in 2012-13. Profitability position has been measure with the help of net profit ratio. It was 14.29 per cent in 2008-09 and 14.30 in 2009-10. In 2010-11, profitability position of the company is declined as the net profit ratio 7.50 per cent. It shows a decreasing trend in rest of the study period. Solvency position of CCI has been checked through debt equity ratio. It shows a negative trend of solvency because of negative shareholder's fund during the study period. The company is failed to manage its shareholder's fund during the study period. Interest coverage ratio was 1.41 in 2008-09 whish fluctuate during the study period and finally stood at 1.82 in 2012-13.

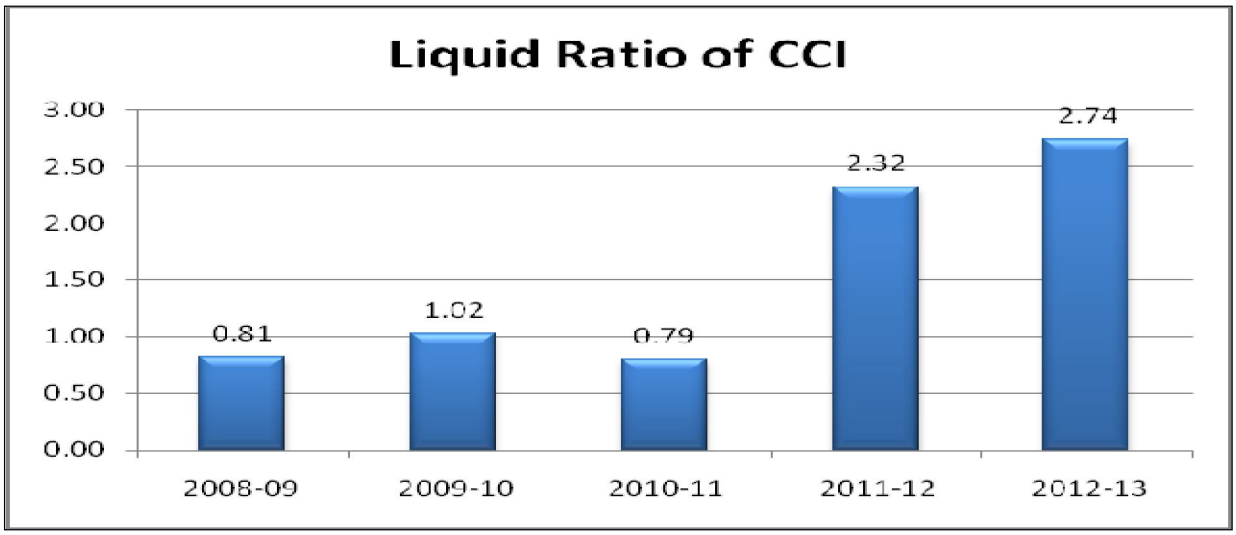
Figure – 1 Current Ratio of Cement Corporation of India Limited



Source: Annual Reports of Cement Corporation of India from 2008-09 to 2012-13.

The above figure presents the trend of current of Cement Corporation of India (CCI) of India Limited from 2008-09 to 2012-13. It was 1.12 times in 2008-09 which fluctuate during the initial years of the study and reached to 1.19 times in 2010-11. The current ratio was increased in 2011-12 as it stood at the mark of 3.82 and finally reached to its highest level of 4.71 times in 2012-13.

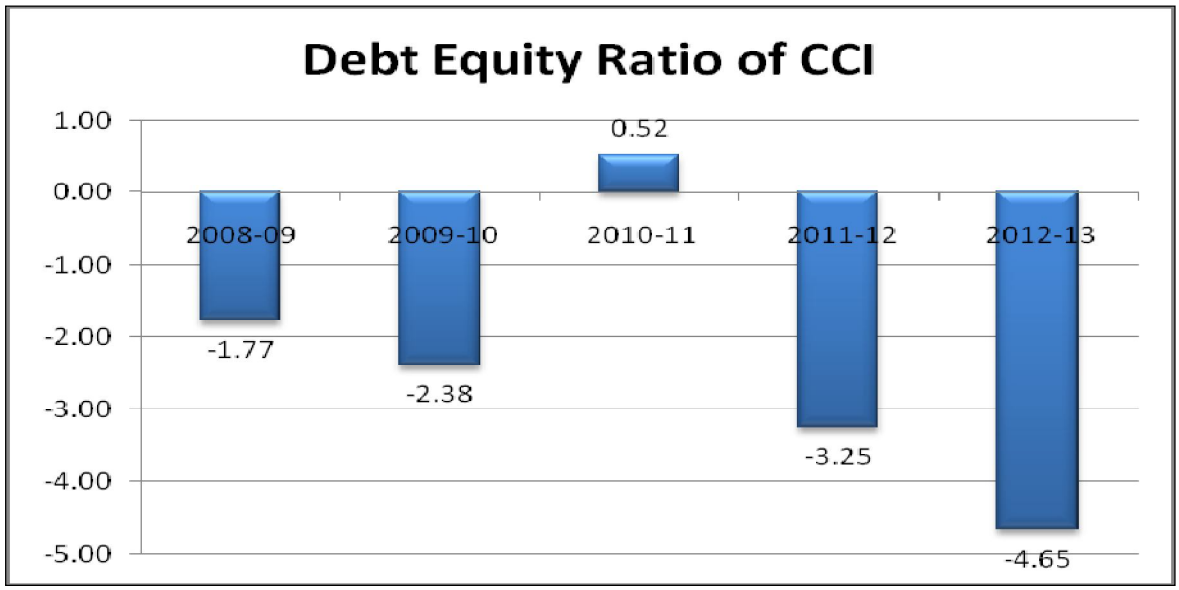
Figure – 2 Liquid Ratio of Cement Corporation of India Limited



Source: Annual Reports of Cement Corporation of India from 2008-09 to 2012-13.

The above figure shows the liquid ratio of CCI from 2008-09 to 2012-13. Liquid ratio was 0.81 times in 2008-09 which fluctuate in next two years and stood at 0.79 times in 2010-11. It increased in last two years of the study as it reached to 2.74 times in 2012-13.

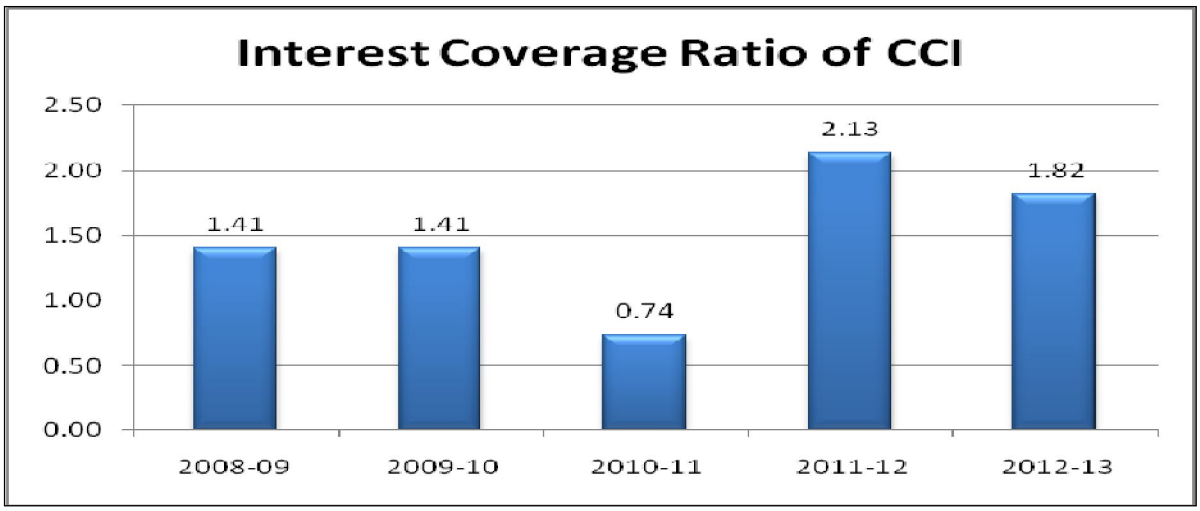
Figure – 3 Debt Equity Ratio of Cement Corporation of India Limited



Source: Annual Reports of Cement Corporation of India from 2008-09 to 2012-13.

Figure 3 shows the trend of debt equity of Cement Corporation of India 2008-09 to 2012-13.the trend shows a negative trend during the most of the study period. The reason behind the negative debt equity ratio is because of negative shareholders fund. It was -1.77 in 2008-09 which decline gradually during the study period and finally reached to -4.65 in 2012-13.

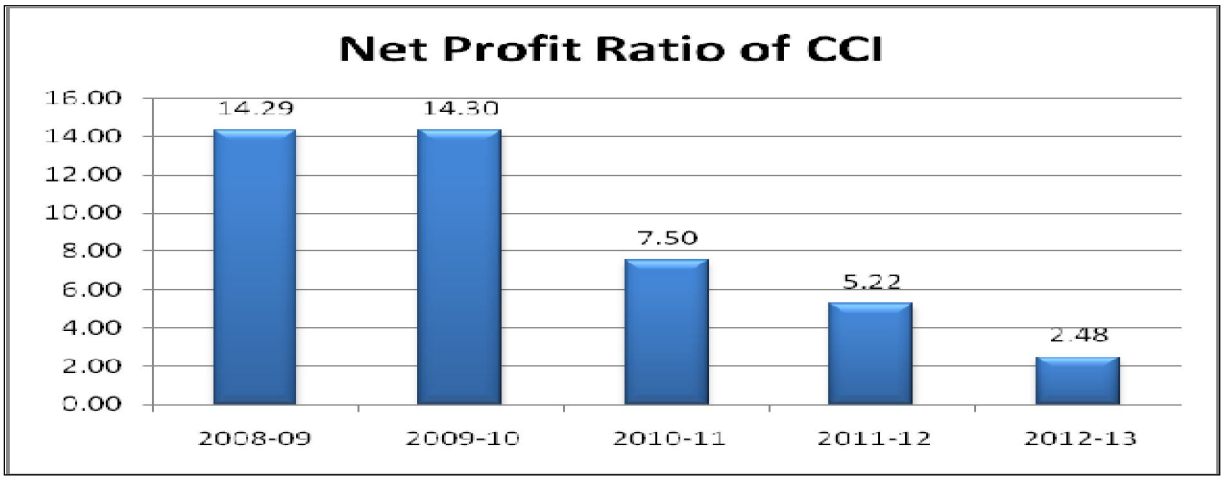
Figure – 4 Interest Coverage Ratio of Cement Corporation of India Limited



Source: Annual Reports of Cement Corporation of India from 2008-09 to 2012-13

The above figure shows the interest coverage ratio of CCI from 2008-09 to 2012-13.it indicates the ability of company to pay its interest charges the trend of ICR shows that the company generate its adequate profit to pay interest charges. It was 1.41 times in 2008-09 which reached to 2.13 times in 2011-12. Finally it stood at 1.82 times in 2012-13.

Figure – 5 Net Profit Ratio of Cement Corporation of India Limited



Source: Annual Reports of Cement Corporation of India from 2008-09 to 2012-13.

Figure 5 shows the net profit ratio of CCI from 2008-09 to2012-13.instead of negative shareholders fund the company earned positive profit during the study period. It was approx 14.29 in 2008-09 and 2009-10 and then decline in the following years and finally it decreased to 2.48 in 2012-13

Table – 2 Descriptive Statistics of Sales and Financial Ratios of CCI of India Ltd

Descriptive Statistics			
	Mean	**Std. Deviation**	**N**
SALES	35962.40	1826.10	5
CR	2.44	1.69	5
LR	1.53	.92	5
NPR	8.75	5.36	5
DER	-2.31	1.91	5
ICR	1.50	.52	5

Source: Annual Reports of Cement Corporation of India Limited from 2008-09 to 2012-13.

Table 2 presents the statistical description of sales and different accounting ratios of Cement Corporation of India limited from 2008-09 to 2012-13. The mean value of sales was Rs. 35962.40 during the study period and standard deviation of sales was 1826.10. The mean value of liquidity ratio was above to the standard during the study period while debt equity ratio shows a negative mean value of -2.31 indicated negative shareholder's fund.

Table – 3 Correlation between Sales and Current Ratio of CCI from 2008-09 to 2012-13

Correlations			
		CR	SALES
Pearson Correlation	CR	1.000	-0.632
	Sales	-0.632	1.000
Sig. (1-tailed)	CR	.	0.126
	Sales	0.126	.
N	CR	5	5
	Sales	5	5

Source: Annual Reports of Cement Corporation of India Limited from 2008-09 to 2012-13.

Table 3 presents the correlation between sales and current ratio of CCI from 2008-09 to 2012-13. From the analysis it is cleared that there is a negative relationship exists between sales and current ratio of the company. The value of correlation is -0.632 which indicates that there is a strong negative correlation among these variables.

Table – 4 Model Summary of Sales and Current Ratio of CCI

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.632[a]	.399	.199	1.51923

Source Annual Reports of Cement Corporation of India Limited from 2008-09 to 2012-13.
a. Predictors: (Constant), Sales

Table 4 presents model summary between the sales and current ratios of CCI Limited from 2008-09 to 2012-13. The coefficient of determination (r^2) is at 0.399 which implies that 39.9 percent of the variation in current ratio is explained by sales.

Table – 5 Regression Analysis of impact of Sales on Current Ratio of CCI

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	23.569	14.975		1.574	.214
	SALES	-.001	.000	-.632	-1.412	.253

Source: Annual Reports of Cement Corporation of India Limited from 2008-09 to 2012-13.
a. Dependent Variable: CR

Table 5 presents the linear regression model for measuring the impact of sales on current ratio in CCI Ltd. from 2008-09 to 2012-13. Sales of CCI Limited is considered as an independent variable and current ratio as dependent variable. The result of regression shows that the intercept

is 23.569 which is high. It means that there are other factors also, which affects sale. Further, the regression co-efficient (beta) is equal to -.001 which signifies that for every rupee change in current ratio, there is a 0.010 rupee change in sale. The significance value is 0.253 which is more than the critical value i.e. 0.05. Hence, the impact of sale on current ratio is not significant. It leads to the acceptance of null hypothesis and concluded that there is no significant impact of sale on current ratio.

Table – 6 Correlations between Sales and Liquid Ratio of CCI from 2008-09 to 2012-13

		LR	SALES
Pearson Correlation	LR	1.000	-0.604
	Sales	-0.604	1.000
Sig. (1-tailed)	LR	.	0.140
	Sales	0.140	.
N	LR	5	5
	Sales	5	5

Source: Annual Reports of Cement Corporation of India Limited from 2008-09 to 2012-13.

Table 6 present the correlation between the sales and correlation between sales and liquidity of CCI. There is a negative correlation found between these variable. It was 0.604 during the study period. After analysis it can be stated there is the strong negative relationship exist between sales and liquid ratio.

Table – 7 Regression Analysis of impact of Sales and Liquid Ratio of CCI

Model		**Unstandardized Coefficients**		**Standardized Coefficients**		
		B	**Std. Error**	**Beta**	**t**	**Sig.**
1	(Constant)	12.528	8.379		1.495	.232
	Sales	.000	.000	-.604	-1.313	.281

Source: Annual Reports of Cement Corporation of India Limited from 2008-09 to 2012-13.
a. Dependent Variable: LR

Table 7 presents the linear regression model for measuring the impact of sales on liquid ratio in CCI Ltd. from 2008-09 to 2012-13. Sales of CCI Limited is considered as an independent variable and liquid ratio as dependent variable. The result of regression shows that the intercept is 12.528 which is high. It means that there are other factors also, which affects sale. The significance value is 0.281 which is more than the critical value i.e. 0.05. Hence, the impact of sale on liquid ratio is not significant. It leads to the acceptance of null hypothesis and concluded that there is no significant impact of sale on liquid ratio.

Table – 8 Correlation between Sales and Net Profit Ratio of CCI from 2008-09 to 2012-13

		NPR	SALES
Pearson Correlation	**NPR**	1.000	0.635
	Sales	0.635	1.000

Sig. (1-tailed)	**NPR**	.	.125
	Sales	.125	.
N	**NPR**	5	5
	Sales	5	5

Source: Annual Reports of Cement Corporation of India Limited from 2008-09 to 2012-13.

Table 8 exhibits the correlation between the sales and net profit ratio of CCI from 2008-09 to 2012-13. There is a positive correlation it was found 0.635 found these variable during the study period after analysis it can be stated there is the strong positive relationship exist between sales and NPR ratio.

Table – 9 Coefficients' between Sales and Net Profit Ratio of CCI from 2008-09 to 2012-13

Model		**Unstandardized Coefficients**		**Standardized Coefficients**	**t**	**Sig.**
		B	**Std. Error**	**Beta**		
1	**(Constant)**	-58.277	47.095		-1.237	.304
	SALES	.002	.001	.635	1.425	.249

Source: Annual Reports of Cement Corporation of India Limited from 2008-09 to 2012-13.
a. Dependent Variable: NPR

Table 9 presents the linear regression model for measuring the impact of sales on net profit ratio in CCI Ltd. from 2008-09 to 2012-13. Sales of CCI Limited is considered as an independent variable and net profit ratio as dependent variable. The result of regression shows that the intercept is -58.277 which is high. It means that there are other factors also, which affects sale. Further, the regression co-efficient (beta) is equal to -0.002 which signifies that for every rupee change in net profit ratio, there is a 0.020 rupee change in sale. The significance value is 0.249 which is more than the critical value i.e. 0.05. Hence, the impact of sale on net profit ratio is not significant. It leads to the acceptance of null hypothesis and concluded that there is no significant impact of sale on net profit ratio.

Table – 10 Correlation between Sales and Debt Equity Ratio of CCI from 2008-09 to 2012-13

		DER	**SALES**
Pearson Correlation	DER	1.000	0.520
	Sales	.520	1.000
Sig. (1-tailed)	DER	.	.185
	Sales	.185	.
N	DER	5	5
	Sales	5	5

Source: Annual Reports of Cement Corporation of India (CCI) Limited from 2008-09 to 2012-13.

Table 10 present the correlation between the sales and debt equity ratio of CCI there is a positive correlation found between these variable it was .520 during the study period. After analysis it can be stated there is the strong positive relationship exist between sales and DER.

Table – 11 Coefficients' between Sales and Debt Equity Ratio of CCI from 2008-09 to 2012-13

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-21.914	18.615		-1.177	.324
	SALES	.001	.001	.520	1.054	.369

Source: Annual Reports of Cement Corporation of India (CCI) Limited from 2008-09 to 2012-13.

a. Dependent Variable: DER

Table 11 presents the linear regression model for measuring the impact of sales on debt equity ratio in CCI Ltd. from 2008-09 to 2012-13. Sales of CCI Limited is considered as an independent variable and debt equity ratio as dependent variable. The result of regression shows that the intercept is -21.914 which is high. It means that there are other factors also, which affects sale. Further, the regression co-efficient (beta) is equal to -.001 which signifies that for every rupee change in debt equity, there is a 0.010 rupee change in sale. The significance value is 0.369 which is more than the critical value i.e. 0.05. Hence, the impact of sale on current ratio is not significant. It leads to the acceptance of null hypothesis and concluded that there is no significant impact of sale on debt equity.

Table – 12 Correlation between Sales and Interest Coverage Ratio of CCI from 2008-09 to 2012-13

		ICR	SALES
Pearson Correlation	ICR	1.000	-.144
	SALES	-.144	1.000
Sig. (1-tailed)	ICR	.	.409
	SALES	.409	.
N	ICR	5	5
	SALES	5	5

Source: Annual Reports of Cement Corporation of India (CCI) Limited from 2008-09 to 2012-13.

Table 12 exhibits the correlation between the sales and interest coverage ratio of CCI. There is a positive correlation found i.e. -0.144. After analysis it can be stated there is the negative relationship exist between sales and interest coverage ratio.

Table – 13 Regression analysis between Sales and Interest Coverage Ratio of CCI from 2008-09 to 2012-13

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.981	5.888		.506	.647
	SALES	-4.11	.000	-.144	-.252	.818

Source: Annual Reports of Cement Corporation of India (CCI) Limited from 2008-09 to 2012-13.

a. Dependent Variable: ICR

Table 13 presents the linear regression model for measuring the impact of sales on interest coverage ratio in CCI Ltd. from 2008-09 to 2012-13. Sales of CCI Limited is considered as an independent variable and Interest Coverage ratio as dependent variable. The result of regression shows that the intercept is 2.981 which is high. It means that there are other factors also, which affects sale. The significance value is 0.818 which is more than the critical value i.e. 0.05. Hence, the impact of sale on current ratio is not significant. It leads to the acceptance of null hypothesis and concluded that there is no significant impact of sale on Interest Coverage ratio

Concluding Remarks

The present study is devoted to the evaluation of financial performance of Indian Cement Industry with special reference to Cement Corporation of India (CCI) Limited from 2008-09 to 2012-13. The researcher used accounting ratios in order to measure the financial performance of Cement Corporation of India limited. Liquidity, profitability and solvency position has been analyzed in this study. From the analysis it has been cleared that the short term solvency position of the company is not satisfactory during the period under study. The company did not earn adequate profit during the study period as its net profit shows very low trends. The solvency position of the company shows a negative trend due to negative reserve and surplus figures during the study period. Interest coverage ratio indicated that the company is able to meet interest expenses through its profit. From the analysis it is cleared that the sales has not significant impact on net liquidity position, profitability and solvency position of Cement Corporation of India. The company did not able to pay its obligations within time during the early period of the study. The company earns satisfactory profit in first two years but it decreased in rest of the study period.

References

- Cement industry in India april 2014 retrieved on 3 july 2014 from http://www.ibef.org/industry/cement-india.aspx
- Cement Sector Analysis Report 2014 retrieved from http://www.equitymaster.com/research-it/sector-info/cement/Cement-Sector-Analysis-Report.asp
- Company Profile, Cement Corporation of India (CCI). Retrieved from: http://www.cementcorporation.co.in/page.php?id=23

- Corvellec, H. (1997) Stories of Achievements: Narrative Features of Organizational Performance (p.11)retrived from http://books.google.co.in/books?id=UjQ0dWwXTUIC}year={1997},
- Driklechtenberg,mvwlechtenberg&parner.alternativefuels:providing growth and sustainability, (Global cement magazine feb 2013)retevied from http://www.globalcement.com/pdf/eGGFeb13ns.pdf on june 2014
- Hye, D.M.A. & Rahman, M.A. (1997). Performance of Selected Private Sector General Insurance Companies in Bangladesh, Chittagong University Studies (Commerce), Vol. 13, pp. 137-160.
- Jain, T. R., & Khanna, O. P. (2010). Development Problems and Policies (p. 336). New Delhi: VimlaKumari Jain
- Jahur M.S. & Mohiuddin, M. (1995). Measurement of operational performance through ratio analysis – A case study of Usmania Glass Sheet Factory Ltd. Chittagong", Chittagong University Studies (Commerce), vol XI, pp. 245-255
- Jahur M.S. & Parveen, J.A. (1996). An analysis of financial performance of public enterprises-A case study of Chittagong Steel Mills Ltd., Chittagong University Studies (Commerce), Vol. 12, pp. 173-184
- Kaur, S.S. & Silky J. (2013) A Study On Liquidity And Profitability Of Selected Indian Cement Companies: A Regression Modeling Approach International Journal of Economics, Commerce and Management United Kingdom Vol. I, Issue 1, 2013, Retrieved from: http://ijecm.co.uk/wp-content/uploads/2014/01/115.pdf
- Krishna, D. M. (2014, March). Status of Provisions of the Factories Act, 1948 - A study at Penna Cement Industries Limited (PCIL), Tadipatri. IOSR Journal of Business and Management (IOSR-JBM, 16(3), 14-26. Retrieved from http://iosrjournals.org/iosr-jbm/full-issue/JBM-16(3)v1.pdf
- Ohlson, J.A. (1980). Financial Ratios and the Probabilitistic Prediction of Bankruptcy", Journal of Accounting Research, .19 (1), 61-80
- Panigrahi, A.K. (2013) Liquidity Management of Indian Cement Companies – A Comparative Study IOSR Journal of Business and Management (IOSR-JBM) Volume 14, Issue 5 (Nov. - Dec. 2013), PP 49-61 Retrieved from: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2362751
- Salauddin. (2001). Profitability of Pharmaceutical companies of Bangladesh. The Chittagong University Journal of Commerce, 16, 54-64
- Shaikh, M.A.H. & Miah, M.A.S. (1979). Financial Position and Performance analysis of Bangladesh Shilpa Bank, Islamic University Studies (part C), Vol. 1, No. 2, December p. 207-225.
- Sharma, L. M., & Tiwari, S. (2014). RESOURCE CONSTRAINT : A MAJOR IMPEDIMENT FOR INFRASTRUCTURE GROWTH. International Journal of Advanced Technology in Engineering and Science, (02), 199–205. Retrieved from http://www.ijates.com/images/short_pdf/1403531661_P199-205.pdf
- Sina, M.A. & Matubber, M.A.A. (1998). "Financial Statement Analysis of Khulna Newsprint Mills Ltd.", Islamic University Studies (part C), Vol. 1, No. 2, December, pp179-189.

- Singh, J.J. & Samuel, J. (2012), A study on financial performance of the India cements limited in Sankar Nagar at Tirunalveli IJRIME Vol. 2, Issue 5 (May-2012) Retrieved from: ISSN: 2249-1619 http://gjmr.org/IJRIME/vol2issue5/3.pdf
- Wen-Cheng LIN, Chin-Feng LIU and Ching-Wu CHU, (2005). "Performance efficiency evaluation of the Taiwan's shipping Industry: An application of DEA", Proceeding of the Transportation Studies, Vol.5, pp. 467-476